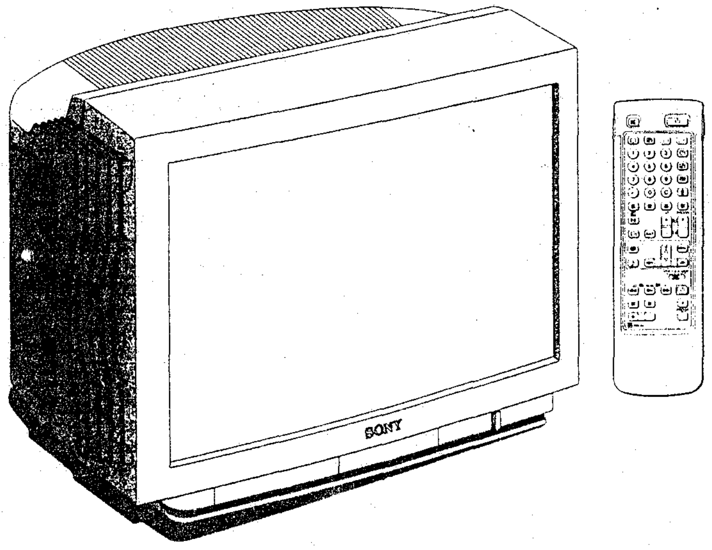
SERVICE MANUAL

AE-2A CHASSIS

MODEL	COMMANDER	DEST.	CHASSIS NO.
KV-A2931A	RM-831	Italian	SCC-G12E-A
KV-A2931B	RM-831	French	SCC-G13C-A
KV-A2931D	RM-831	AEP	SCC-G14C-A
KV-A2933E	RM-831	Spanish	SCC-G15C-A
KV-A2932U	RM-831	UK	SCC-G16C-A

EINGEGANGEN 17. Jan. 1995



TRINITRON® COLOR TV

SONY®

MICROFILM

ITEM MODEL	Television system	Stereo system	Channnel coverage	Color system
Italian	B/G/H, D/K	GERMAN Stereo	ITALIA VHF:A-H2 (C) UHF:21-69 PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
French	B/G/H, D/K L, I	GERMAN Stereo	L VHF:F02-F10 UHF:F21-F60 CABLE:B-Q B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69 I UHF:B21-B69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
AEP	B/G/H, D/K	GERMAN Stereo	PAL B/G/H VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
Spanish	B/G/H, D/K	GERMAN/NICAM Stereo	PAL B/G VHF:E2-E12 UHF:E21-E69 CABLE TV (1):S1-S41 CABLE TV (2):S01-S05, M1-M10, U1-U10 ITALIA VHF:A-H2 (C) UHF:21-69 D/K VHF:R01-R12 UHF:R21-R69	PAL, SECAM NTSC4.43, NTSC3.58 (VIDEO IN)
UK	I	NICAM Stereo	UHF : B21-B69	PAL SECAM, NTSC 4.43 NTSC 3.58 (VIDEO IN)

MODEL	Italian	French	AEP	Spanish	UK
Power consumption	113 W	184 Wh	130 Wh	133 Wh	186 W

Picture tube	Super Trinitron Approx. 72 cm (Approx. 68 cm picture measured diagonally) 110 ° -deflection

【REAR】

⊸ 1 21-pin Euro connector (CENELEC standard)

Inputs for audio and video signals

- inputs for RGB
- outputs of TV video and audio signals

⊸ 2/⊸ 2 21-pin Euro connector

- inputs for audio and video signals
- inputs for S video
- outputs for audio and video signals (selectable)

⊸ Audio outputs (Variable) - phono jacks

【FRONT】

⊸ 3 Video input-phono jack

⊸ Audio input-phono jacks

⊸ 3 S video input 4-pin DIN

Ω Headphone jack : Stereo minijack

Sound output	2×15 (RMS) 2×30 (Music)
Power reqirement	220-240V
Dimensions	Approx.762 x 557 x546 mm
Weight	Approx.55kg
Supplied accessories	RM-831 Remote Commander (1) IEC designation R6 batteries (2)
Other features	NICAM, FASTTEXT

【RM-831】

Remote control system	infrared control
Power requirements	3V dc 2 batteries IEC designation R6 (size AA)
Dimentions	Approx.65×225×21mm (w/h/d)
Weight	Approx.157g (Not including Batteries)

Design and specifications are subject to change without notice.

Model name Item	KV-A2931A	KV-A2931B	KV-A2931D	KV-A2933E	KV-A2932U
Pal Comb	ON	OFF	ON	ON	ON
PiP	OFF	ON	OFF	OFF	OFF
RGB Priority	ON	ON	OFF	OFF	OFF
Woofer Box	OFF	OFF	OFF	OFF	OFF
Scart 1	ON	ON	ON	ON	ON
Scart 2	ON	ON	ON	ON	ON
Front in (3)	ON	ON	ON	ON	ON
Scart 4	OFF	OFF	OFF	OFF	OFF
Dyn. Convergence	OFF	OFF	OFF	OFF	OFF
Projector	OFF	OFF	OFF	OFF	OFF
AKB in 16:9 mode	ON	ON	ON	ON	ON
Norm B/G	ON	ON	ON	ON	OFF
Norm I	OFF	ON	OFF	OFF	ON
Norm D/K	ON	ON	ON	ON	OFF
Norm AUS	OFF	OFF	OFF	OFF	OFF
Norm L	OFF	ON	OFF	OFF	OFF
Norm SAT	OFF	OFF	OFF	OFF	OFF
Norm M	OFF	OFF	OFF	OFF	OFF
Language Preset	Italiano	Francais	Deutsch	None	English

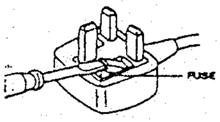
WARNING KV-A2932U only

The flexible mains lead is supplied to connected a B.S. 1363 fused plug having a fuse of 5 amp capacity. Should the fuse need to be replaced, use a 5 AMP FUSE approved by ASTA to BS 1362, ie carries the ◈ mark.

If the plug supplied with this appliance is not suitable for your socket outlets in your home, it should be cut off and an appropriate plug fitted.

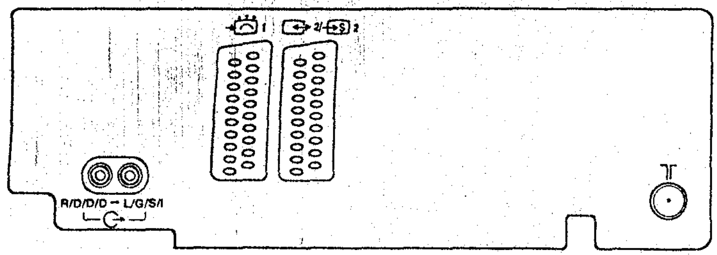
The plug severed from the mains lead must be destroyed as a plug with bared wires is dangerous if engaged in a live socket outlet.

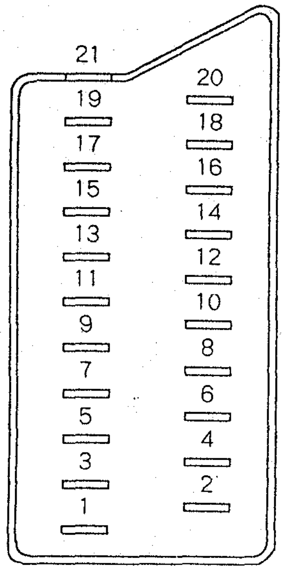
When an alternative type of plug ist used it should be fitted with a 5 AMP FUSE, otherwise the circuit should be protected by a 5 AMP FUSE at the distribution board.



How to replace the fuse
Open the fuse compartment with the blade screwdriver, and replace the fuse.

21 pin connector (⇥1 ⇥2/⇥4)





Pin No	1	2	Signal	Signal level
1	○	○	Audio output B (right)	Standard level : 0.5Vrms Output impedance : Less than 1kohm *
2	○	○	Audio input B (right)	Standard level : 0.5Vrms Input impedance : More than 10kohms *
3	○	○	Audio output A (left)	Standard level : 0.5Vrms Output impedance : Less than 1kohm *
4	○	○	Ground (audio)	
5	○	○	Ground (blue)	
6	○	○	Audio input A (left)	Standard level : 0.5Vrms Input impedance : More than 10kohms *
7	○	●	Blue input	0.7 ± 3dB, 75ohms, positive
8	○	○	Function select (AV control)	High state (9.5 – 12V) : Part mode Low state (0 – 2V) : TV mode Input impedance : More than 10kohms Input capacitance : Less than 2nF
9	○	○	Ground (green)	
10	○	○	Open	
11	○	●	Green	Green signal : 0.7V ± 3dB, 75ohms, positive
12	○	○	Open	
13	○	○	Ground (red)	
14	○	○	Ground (blanking)	
15	○	–	Red input	0.7V ± 3dB, 75ohms, positive
	–	○	(S signal) croma input	0.3V ± 3dB, 75ohms, positive
16	○	●	Blanking input (Ys signal)	High state (1 – 3V) Low state (0 – 0.4V) Input impedance : 75ohms
17	○	○	Ground (video output)	
18	○	○	Ground (video input)	
19	○	○	Video output	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
20	○	–	Video input	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
	–	○	Video Input/Y (S signal)	1V ± 3dB, 75ohms, positive Sync : 0.3V (– 3, + 10dB)
21	○	○	Common ground (plug, shield)	

○ Connected ●unconnected (open) * at 20Hz – 20kHz

TABLE OF CONTENTS

Section Title Page

1. GENERAL

Overview 6
Step 3 Tuning in to TV stations 7
Additional Presetting Functions 10
Watching the TV 13
Adjusting and Setting the TV Using the Menu 15
Teletext 17
Connecting and Operating optional Equipment 20

2. DISASSEMBLY

2-1. Rear Cover Removal 22
2-2. Chassis Assy Removal 22
2-3. Service Position 23
2-4. Extension Board 23
2-5. F Bracket Removal 24
2-6. J Board Removal 24
2-7. P1 Board Removal (KV-A2931B only) 25
2-8-1. Wire Dressing 25
2-8-2. Wire Dressing 26
2-9. Speaker Removal 26
2-10. Picture Tube Removal 27

3. SET-UP ADJUSTMENTS

3-1. Beam Landing 28
3-2. Convergence 29
3-3. Focus 31
3-4. White Balance 31

4. CIRCUIT ADJUSTMENTS

4-1. Electrical Adjustments 32
4-2. Volume Electrical Adjustments 36
4-3. Test Mode 2 : 37
4-4. Error Message 38
4-5. Error II C Bus Diagnosis System in AE-2A Chassis Available 38

Section Title Page

5. DIAGRAMS

5-1. Block Diagram (1) 39
Block Diagram (2) 44
5-2. Circuit Boards Location 49
5-3. Schematic Diagrams and Printed Wiring Boards 49
- H1 Board 50
- H2 Board 50
- F2 Board 50
- F1 Board 50
- J Board 54
- A Board 59
- M1 Board 66
- D Board 70
- P1 Board 74
- B Board 74
- D5 Board 78
- D4 Board 78
- A1 Board 84
- VM Board 86
- C Board 88
- IF Board 92

5-4. Schematic Diagram of Tuner 99
5-5. Semiconductors 100

6. EXPLODED VIEWS

6-1. Chassis 102
6-2. Picture Tube 103

7. ELECTRICAL PARTS LIST 104

CAUTION

SHORT CIRCUIT THE ANODE OF THE PICTURE TUBE AND THE ANODE CAP TO THE METAL CHASSIS, CRT SHIELD, OR CARBON PAINTED ON THE CRT, AFTER REMOVING THE ANODE.

WARNING !!

AN ISOLATION TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND, IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION

APRES AVOIR DECONNECTE LE CAP DE L'ANODE, COURT-CIRCUITER L'ANODE DU TUBE CATHODIQUE ET CELUI DE L'ANODE DU CAP AU CHASSIS METALLIQUE DE L'APPAREIL, OU AU COUCHE DE CARBONE PEINTE SUR LE TUBE CATHODIQUE OU AU BLINDAGE DU TUBE CATHODIQUE.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ELECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ À L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÈS PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS DES SUPPLÉMENTS PUBLIÉS PAR SONY.

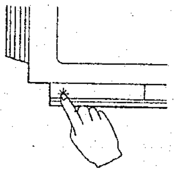
SECTION 1
GENERAL

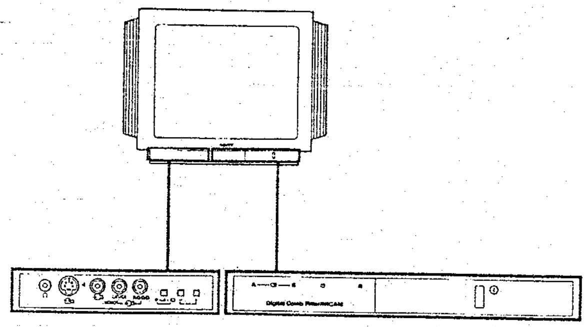
The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remein as in the manual.

Overview

This section briefly describes the buttons and controls on the TV set and on the Remote Commander. For more information, refer to the pages given next to each description.

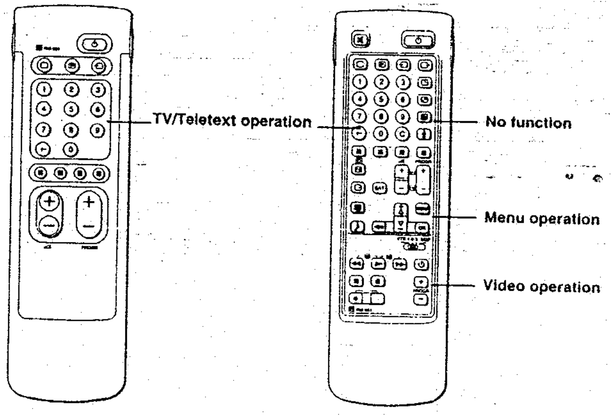
TV set - front





Symbol	Name	Refer to page
⊙	Main power switch	13
⏻	Standby indicator	13
A-◯-B	Stereo A/B indicators	15
∩	Headphones jack	21
-Ⓢ3, -⊙3, -⊙3,	Input jacks (S-video/video/audio)	21
P→◿→⊙	Function selector (Programme/volume/input)	14
– +	Adjustment buttons for function selector	14

Remote Commander



Simple side

Full-Function side

Note
The SAT button does not operate with this TV.

TV operation

Symbol	Name	Refer to Page
🔇	Mute on/off button	14
⏻	Standby button	13
○	TV power on/TV mode selector button	13
⊜	Teletext button	14
→⊙	Input mode selector	14
⊙→	Output mode selector	21
1,2,3,4,5,6, 7,8,9, and 0	Number buttons	13
-/--	Double-digit entering button	13
C	Direct channel entering button	10
◿+/–	Volume control button	13
PROGR +/–	Programme selectors	13
⊟⊟	Teletext page access buttons	18
●	Picture adjustment button	15
♪	Sound adjustment button	15
⊕	On-screen display button	14
⊛	Teletext hold button	18
⊚	Time display button	14
■■■■	Fastext buttons	17

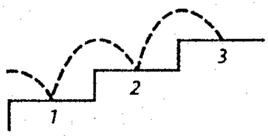
Menu operation

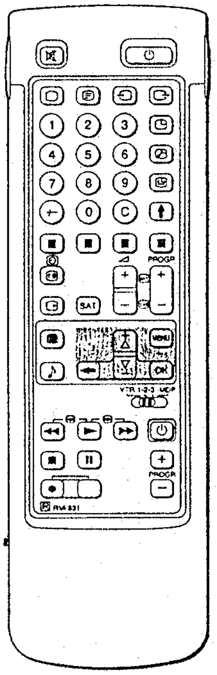
Symbol	Name	Refer to Page
MENU	Menu on / off button	7
△+/▽–	Select buttons	7
OK	OK (confirming) button	7
←	Back button	7

Video operation

Symbol	Name	Refer to Page
VTR1/2/3 MDP	Video equipment selector	25
◀◀ ▶ ▶▶ ■ ll ● ⏻ PROGR +/–	Video equipment operation buttons	25

Step 3 Tuning in to TV Stations





Once you have set up the TV, you can choose the language of the menu. Then you should preset the channels (up to 100 channels) by choosing either the automatic or manual method.

The automatic method is easier if you want to preset all receivable channels at once. Use the manual method if you only have a few channels and want to preset channels one by one. The manual method is also convenient for allocating programme numbers to various video input sources.

Before you begin

- Check that the Full-Function side of the Remote Commander is visible.
- Locate Menu operation buttons on the Remote Commander. They are shaded in the illustration at the left.

❶ Choose a language

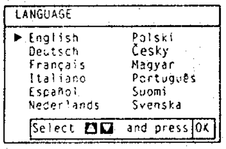
1 Depress ⏻ on the TV.

The TV will switch on. If the standby indicator on the TV is lit, press ○ or a number button on the Remote Commander.

2 Press the MENU button.

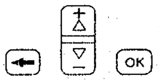
The `LANGUAGE` menu appears.

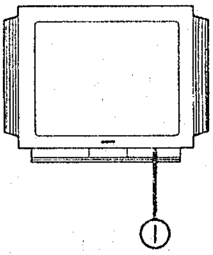
3 Select the language you want with △+ or ▽−, and then press OK



LANGUAGE
▶ English　　Polski
Deutsch　　Česky
Français　　Magyar
Italiano　　Português
Español　　Suomi
Nederlands　　Svenska
Select ▲▼ and press OK

Fig. 1.





❷ Display the Menu

1 Press the ← button.

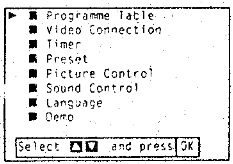
The main menu appears. (See Fig. 2)

Now, choose one of the methods described overleaf:

"Preset Channels Automatically"

or

"Preset Channels Manually".



▶ ■ Programme Table
■ Video Connection
■ Timer
■ Preset
■ Picture Control
■ Sound Control
■ Language
■ Demo
Select ▲▼ and press OK

Fig. 2.

To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU. Normal TV picture will be restored after one minute if menu functions are not selected.

Note on the Demo function:
If you choose Demo on the main menu, you can see a sequential demonstration of the menu functions.

❸ Preset channels automatically

With this method, you can preset all receivable channels at once.

To stop automatic channel presetting:
Press ← on the Remote Commander.

Notes:

- After presetting the channels automatically, you can check which channels are stored on which programme positions. For details, see "Using the Programme Table" on page 16.
- You can exchange the programme positions to have them appear on screen in the order you like. For details, see "Exchanging the Programme Positions" on page 10.

1 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears. (See Fig. 3.)

2 Select `Auto Programme` with △+ or ▽– and press OK.
The `AUTO PROGRAMME` menu appears. (See Fig. 4.)

3 Press OK repeatedly until the first element of the "PROG" number is highlighted.

4 Select the programme (number button) from which you want to start presetting. Select the first element of the double-digit number with △+ or ▽– or the number buttons (e.g. For "04", select "0" here) and press OK.
The second element of "PROG" will be highlighted.

5 Select the second element of the double-digit number with △+ or ▽– or the number buttons (e.g. For "04", select "4" here) (See Fig. 5.) and press OK.

6 The automatic channel presetting starts.
When presetting is finished, the preset menu reappears. All available channels are now stored on successive number buttons. (Press menu to restore normal TV picture).

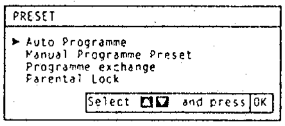

PRESET
▶ Auto Programme
Manual Programme Preset
Programme exchange
Parental Lock
Select ▲▼ and press OK

Fig. 3.

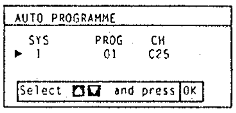

AUTO PROGRAMME
SYS PROG CH
▶ I 01 C25
Select ▲▼ and press OK

Fig. 4.

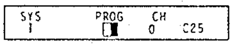

SYS PROG CH
I 0 C25

Fig. 5.

❸ Preset channels manually

Use this method if there are only a few channels in your area to preset or if you want to preset channels one by one. You may also allocate programme numbers to various video input sources.

If you have made a mistake:
Press ← to go back to the previous position.
To go back to main menu
Keep pressing ←.
To go back to the normal TV picture
Press MENU.

1 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears. (See Fig. 6.)

2 Select `Manual Programme preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig. 7.)

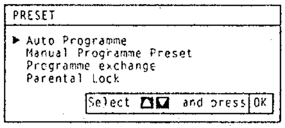
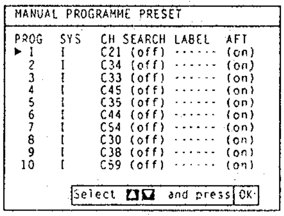

PRESET
▶ Auto Programme
Manual Programme Preset
Programme exchange
Parental Lock
Select ▲▼ and press OK

Fig. 6.


MANUAL PROGRAMME PRESET

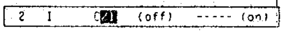
PROG	SYS	CH	SEARCH	LABEL	AFT
▶ 1	I	C21	(off)	------	(on)
2	I	C34	(off)	------	(on)
3	I	C33	(off)	------	(on)
4	I	C45	(off)	------	(on)
5	I	C35	(off)	------	(on)
6	I	C44	(off)	------	(on)
7	I	C54	(off)	------	(on)
8	I	C30	(off)	------	(on)
9	I	C38	(off)	------	(on)
10	I	C59	(off)	------	(on)

Select ▲▼ and press OK

Fig. 7.

3 Using △+ or ▽–, select the programme position (number button) to which you want to preset a channel, and press OK.

4 Keep pressing ▽– to select programme numbers higher than 10.



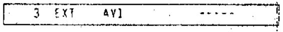
2 I C21 (off) ----- (on)

Fig.8.

To tune in a channel by frequency:
After selecting F in step 6, enter three digits using the number buttons.
Press OK.

5 Select, if necessary, a video input source (EXT) with △+ or ▽–. Then press OK. The first element of the CH position will be highlighted. (See Fig. 8.)

6 Using △+ or ▽–, select C (to preset a regular channel), or F (to tune in by frequency) and press OK.
The first element of the "CH" number will be highlighted.
If you have selected EXT in step 4, select the video input source with △+ or ▽–. (See Fig. 9.)



3 EXT AV1 -----

Fig.9.

Please refer to "Television Channel Number Guide" on page 24.

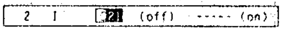
There are two ways to preset channels. If you know the channel number, go to step "7-Manual",

or

if you don't know the channel number, go to step "7- Search".

7 *Manual*

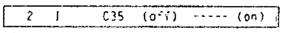
-a Select the first element of the "CH" number with △+ / ▽– or the number buttons and press OK.
The second element of the "CH" number will be highlighted.



2 I C21 (off) ----- (on)

Fig.10.

-b Select the second element of the number with △+ / ▽– or the number buttons.
The selected number appears. (See Fig. 10.)



2 I C35 (off) ----- (on)

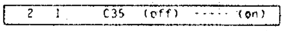
Fig.11.

-c Press OK
The "SEARCH" position is highlighted and the selected channel is now stored. (See Fig. 11.)

If you have made a mistake:
Press ← to go back to the previous position.
To go back to main menu
Keep pressing ←.
To go back to the normal TV picture
Press MENU.

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

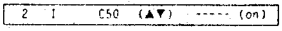


2 I C35 (off) ----- (on)

Fig.12.

7 *Search*

-a Press OK repeatedly until the colour of the SEARCH position changes.



2 I C50 (▲▼) ----- (on)

Fig.13.

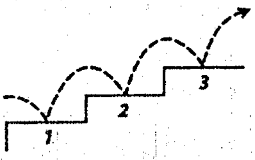
-b Start searching for the channel with △+ (up) or ▽– (down).
The CH position changes colour. (See Fig. 12.)
The CH number starts counting up or downwards. When a channel is found, it stops. (See Fig. 13.)

-c Press OK if you want to store this channel. If not, press △+ or ▽– to continue channel searching.

-d Press OK until the cursor appears by the next programme position.

-e Repeat steps 3 to 7 to preset other channels.

Additional Presetting Functions



This section shows you additional presetting functions such as exchanging or skipping programme positions, captioning a station name, manual fine-tuning, and using the parental lock.

Before you begin

- Check that the Full Function side of the Remote Commander is visible
- Locate the Menu operation buttons.

PROGRAMME EXCHANGE

Exchanging Programme Positions

With this function, you can exchange the programme positions to a preferable order.

1 Press MENU to display the main menu.

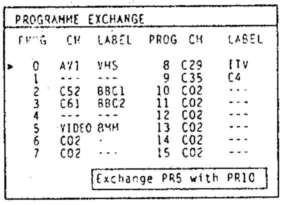
2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Programme exchange` with △+ or ▽– and press OK.
The `PROGRAMME EXCHANGE` menu appears. (See Fig. 14.)

4 Using △+ or ▽–, select the programme position you want to exchange with another and press OK.
The colour of the selected position changes. (See Fig. 15.)

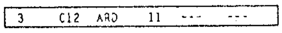
5 Using △+ or ▽–, select the programme posititon to be exchanged and press OK. Now the two programme positions have been exchanged. (See Fig. 16.)

6 Repeat steps 4 and 5 to exchange other programme positions.



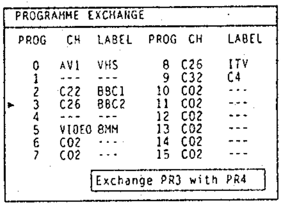
```
PROGRAMME EXCHANGE
 PROG   CH    LABEL   PROG  CH    LABEL

▸  0    AV1   VHS       8   C29   ITV
   1    ---   ---       9   C35   C4
   2    C52   BBC1     10   C02   ---
   3    C61   BBC2     11   C02   ---
   4    ---   ---      12   C02   ---
   5    VIDEO 8MM      13   C02   ---
   6    C02   ·        14   C02   ---
   7    C02   ---      15   C02   ---
              [Exchange PR5 with PR10]
```

Fig. 14.



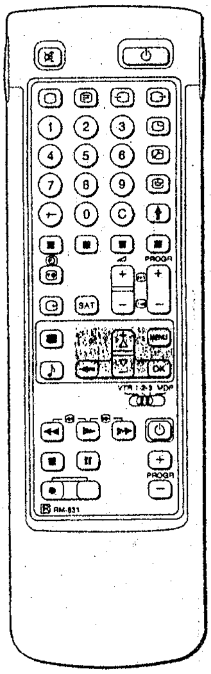
```
 3      C12   ARD      11   ---   ---
```

Fig. 15.



```
PROGRAMME EXCHANGE
 PROG   CH    LABEL   PROG  CH    LABEL

   0    AV1   VHS       8   C26   ITV
   1    ---   ---       9   C32   C4
   2    C22   BBC1     10   C02   ---
▸  3    C26   BBC2     11   C02   ---
   4    ---   ---      12   C02   ---
   5    VIDEO 8MM      13   C02   ---
   6    C02   ---      14   C02   ---
   7    C02   ---      15   C02   ---
              [Exchange PR3 with PR4]
```

Fig. 16.



For higher programme positions:
The display scrolls automatically.

If you have made a mistake:
Press ← to go back to the previous position.

To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU.

Tuning in a Channel Temporarily

Ⓒ

You can tune in a channel temporarily, even when it has not been preset. Use the buttons on the Full-Function side of the Remote Commander.

1 Press C on the Remote Commander.
The indication "C" appears on the screen.

2 Enter the double-digit channel number using the number buttons (e.g. for channel 4, first press 0, then 4).
The channel appears.
However, the channel will not be stored.

MANUAL PROGRAMME PRESET

Skipping Programme Positions

You can skip unused programme positions when selecting programmes with the PROGR +/- buttons. However, the skipped programmes may still be called up when you use the number buttons.

1 Press MENU to display the main menu.

2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

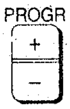
3 Select `Manual Programme Preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig.18.)

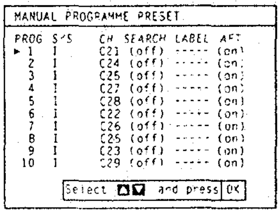
4 Using △+ or ▽–, select the programme position which you want to skip and press OK.
The "SYSTEM" position changes colour.

5 Press △+ or ▽– until – – – appears in the SYSTEM position. (See Fig. 18.)

6 Press OK. (See Fig. 19.)
When you select programmes using the PROGR +/– buttons, the programme position will be skipped.

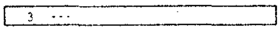
7 Repeat steps 4 to 6 to skip other programme positions.





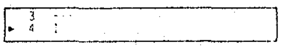
```
MANUAL PROGRAMME PRESET

PROG S'S      CH  SEARCH LABEL  AFT
▶ 1   I       C21 (off)  -----  (on)
  2   I       C24 (off)  -----  (on)
  3   I       C25 (off)  -----  (on)
  4   I       C27 (off)  -----  (on)
  5   I       C28 (off)  -----  (on)
  6   I       C22 (off)  -----  (on)
  7   I       C26 (off)  -----  (on)
  8   I       C25 (off)  -----  (on)
  9   I       C23 (off)  -----  (on)
 10   I       C29 (off)  -----  (on)

        Select ▲▼  and press OK
```

Fig. 17.



```
  3  ---
```

Fig. 18.



```
  3  ---
▶ 4  I
```

Fig. 19.

MANUAL PROGRAMME PRESET

Captioning a Station Name

You can "name" a channel or an input video source using up to five characters (letters or numbers) to be displayed on the TV screen (e.g. BBC1). Using this function, you can easily identify which channel or video source you are watching.

1 Press MENU to display the main menu.

2 Select `Preset` with △+ or ▽– and press OK.
The `PRESET` menu appears.

3 Select `Manual Programme Preset` with △+ or ▽– and press OK.
The `MANUAL PROGRAMME PRESET` menu appears. (See Fig. 20.)

4 Using △+ or ▽–, select the programme position you want to caption and press OK repeatedly until the first element of the LABEL position is highlighted.

5 Select a letter or number with △+ or ▽– and press OK.The next element will be highlighted.
Select other characters in the same way. If you want to leave an element blank, select – and press OK. (See Fig. 21.)

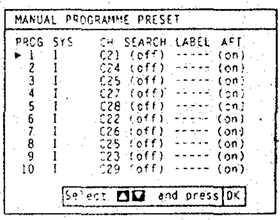
6 After selecting all the characters, press OK repeatedly until the cursor appears by the next programme position (at the left margin). Now the caption you chose is stored. (See Fig. 22.)

7 Repeat steps 5 and 6 to caption names for other channels.

If you have made a mistake:
Press ← to go back to the previous position.

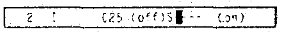
To go back to main menu:
Keep pressing ←.

To go back to the normal TV picture:
Press MENU.



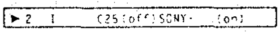
```
MANUAL PROGRAMME PRESET

PROG SYS      CH  SEARCH LABEL  AFT
▶ 1   I       C21 (off)  -----  (on)
  2   I       C24 (off)  -----  (on)
  3   I       C25 (off)  -----  (on)
  4   I       C27 (off)  -----  (on)
  5   I       C28 (off)  -----  (on)
  6   I       C22 (off)  -----  (on)
  7   I       C26 (off)  -----  (on)
  8   I       C25 (off)  -----  (on)
  9   I       C23 (off)  -----  (on)
 10   I       C29 (off)  -----  (on)

        Select ▲▼  and press OK
```

Fig. 20.



```
  2   I       C25 (off)S█---  (on)
```

Fig. 21.



```
▶ 2   I       C25 (off)SONY-  (on)
```

Fig. 22.

MANUAL PROGRAMME PRESET

Manual Fine-Tuning

Normally, the AFT(automatic fine-tuning) is already operating. However, if the picture is distorted, you can use the manual fine tuning function to obtain better picture reception.

1 Press MENU to display the main menu.

2 Select Preset with △+ or ▽− and press OK.
The PRESET menu appears.

3 Select Manual Programme Preset with △+ or ▽− and press OK.
The MANUAL PROGRAMME PRESET menu appears. (See Fig. 23.)

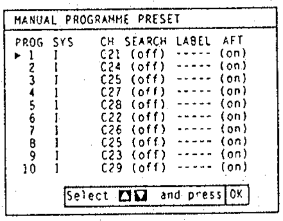
4 Using △+ or ▽−, select the programme position corresponding to the channel which you want to manually fine-tune, and press OK repeatedly until the AFT position changes colour.

5 Fine-tune the channel with △+ or ▽− so that you get the best TV reception. As you press the cursor buttons, the frequency changes from −15 to +15. (See Fig. 24.)

6 After fine tuning, press OK.
The cursor appears beside the next programme position (at the left margin). (See Fig. 25.) Now the fine-tuned level is stored.

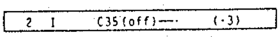
7 Repeat steps 4 to 6 to fine-tune other channels.

To reactivate AFT (automatic fine tuning):
Repeat from the beginning and select "ON" in step 5.



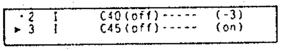
```
MANUAL PROGRAMME PRESET
PROG  SYS     CH  SEARCH  LABEL  AFT
▸ 1   I       C21 (off)   -----  (on)
  2   I       C24 (off)   -----  (on)
  3   I       C25 (off)   -----  (on)
  4   I       C27 (off)   -----  (on)
  5   I       C28 (off)   -----  (on)
  6   I       C22 (off)   -----  (on)
  7   I       C26 (off)   -----  (on)
  8   I       C25 (off)   -----  (on)
  9   I       C23 (off)   -----  (on)
 10   I       C29 (off)   -----  (on)
        Select ▲▼  and press OK
```

Fig. 23.



```
  2   I       C35(off)----      (-3)
```

Fig. 24.



```
 ·2   I        C40(off)-----    (-3)
 ▸3   I        C45(off)-----    (on)
```

Fig. 25.

PARENTAL LOCK

Parental Lock

You can prevent undesirable broadcasts from appearing on the screen. We suggest you use this function to prevent children from watching programmes which you consider unsuitable.

1 Press MENU to display the main menu.

2 Select Preset with △+ or ▽− and press OK.
The PRESET menu appears.

3 Select Parental Lock with △+ or ▽− and press OK.
The PARENTAL LOCK menu appears. (See Fig. 26.)

4 Using △+ or ▽−, select the programme position you want to block and press OK.
CH and LABEL, of the selected programme number, change colour indicating that this programme is now blocked. (See Fig. 27.)

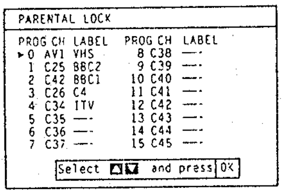
5 Repeat step 4 to block other programme positions.

Cancelling blocking

1 On the PARENTAL LOCK menu, select the programme position you want to unblock with △+ or ▽−.

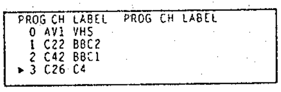
2 Press OK.
CH and LABEL change to normal colour indicating that the blocking has been cancelled.

If you try to select a programme that has been blocked:
The message "LOCKED" appears on the blank TV screen.



```
PARENTAL LOCK
PROG CH  LABEL   PROG CH  LABEL
▸0  AV1  VHS        8 C38  ---
 1  C25  BBC2       9 C39  ---
 2  C42  BBC1      10 C40  ---
 3  C26  C4        11 C41  ---
 4  C34  ITV       12 C42  ---
 5  C35  ---       13 C43  ---
 6  C36  ---       14 C44  ---
 7  C37  ---       15 C45  ---
      Select ▲▼  and press OK
```

Fig. 26.

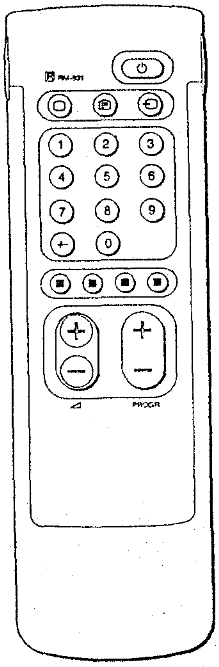


```
PROG CH  LABEL   PROG  CH  LABEL
  0  AV1 VHS
  1  C22 BBC2
  2  C42 BBC1
▸ 3  C26 C4
```

Fig. 27.

Operating Instructions

Watching the TV



If no picture appears when you depress Ⓘ on the TV

and if the standby indicator on the TV is lit, the TV is in standby mode. Press ▢ or one of the number buttons to switch it on.

This section explains the basic functions you use while watching TV. Most of the operations can be done using the simple side of the Remote Commander.

Switching the TV on and off

Switching on

Depress Ⓘon the TV.

Switching off temporarily

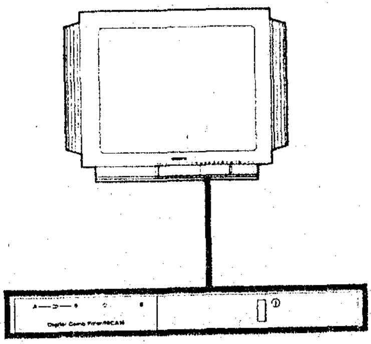
Press ⏻ on the Remote Commander.
The TV enters standby mode and the standby indicator on the front of the TV lights up.

To switch on again

Press ▢, PROGR +/–, or one of the number buttons on the Remote Commander.

Switching off completely

Depress Ⓘ on the TV.



Selecting TV Programmes

Press PROGR +/– or press number buttons.

To select a double-digit number

Press -/– –, then the numbers.
For example, if you want to choose 23, press -/– –, 2, and 3.

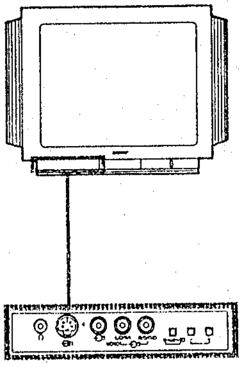
Adjusting the Volume

Press ⊿ +/–.

Operating the TV Using the Buttons on the TV

With the buttons on the TV, you can select programmes, adjust the volume, and select video input sources.

- Press P-⊿-⇨ button repeatedly until the programme number, ⊿ (for volume), or ⇨ (for video input picture) appears. Then adjust with the –/+ buttons.
- Press –/+ buttons to switch on the TV from the standby mode.
- Press –/+ simultaneously to reset picture and sound controls to the factory preset level (RESET symbol →•← is displayed).



Watching Teletext or Video Input

For details of the teletext operation, refer to page 17.

Watching teletext

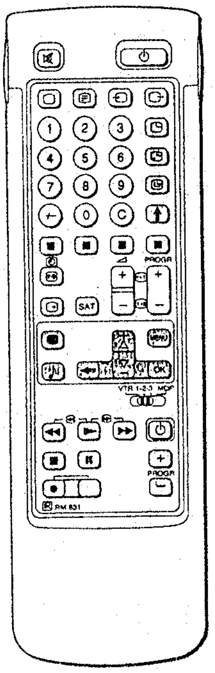
- Press ⊜ to view the teletext.
- Press three number buttons to select a page.
- Press one of the coloured buttons for fastext operation.
- Press ⊞ (PAGE +) or ⊟ (PAGE –) for the next or preceeding page.
- To go back to the normal TV picture, press ▢.

For details of the video input picture, refer to page 21.

Watching a video input picture

Press ⇨ repeatedly until the desired video input appears. To go back to the normal TV picture, press ▢.

More Convenient Functions



Use the Full-Function side of the Remote Commander.

Displaying the on screen indications

- Press ⊕ once to display all the indications. They will disappear after some seconds.
- Press ⊕ twice to have the programme number and label stay on screen. Press twice again to make indications disappear.

Muting the sound.

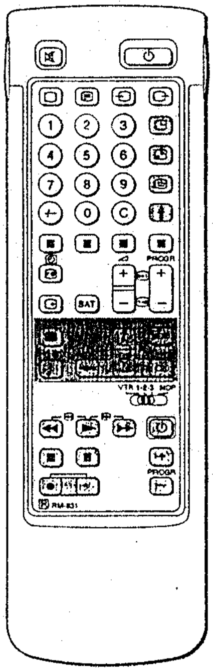
Press 🔇.
To resume normal sound, press 🔇 again.

Displaying the time

Press ⊚. This function is available only when teletext is broadcast.
To make the time display disappear, press ⊚ again.

Adjusting and Setting the TV Using the Menu

PICTURE CONTROL
SOUND CONTROL



Adjusting the Picture and Sound

Although the picture and sound are adjusted at the factory, you can adjust them to suit your own taste. In addition, you can change the aspect ratio of the TV display for wide screen effect, or set the resolution to obtain a higher quality picture. You can also select dual sound (bilingual) programmes when available or adjust the sound for listening with the headphones.

1 Press ● (for picture) or ♪ (for sound) on the Remote Commander.

   or

   Press MENU and select `Picture Control` or `Sound Control`, then press OK.
   The `PICTURE CONTROL` or `SOUND CONTROL` menu appears. (See Fig. 28 or Fig. 29)

2 Using △+ or ▽–, select the item you want to adjust and press OK.The selected item changes colour. (See Fig. 30)

3 Adjust the setting with △+ or ▽ – and press OK.
   The cursor appears beside the next item (at the left margin). (See Fig. 31)
   For the effect of each control, see the table below.

4 Repeat steps 2 and 3 to adjust other items.

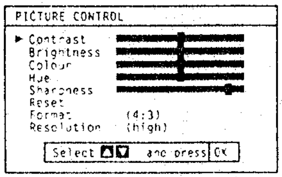

PICTURE CONTROL
► Contrast
Brightness
Colour
Hue
Sharpness
Reset
Format (4:3)
Resolution (high)
Select ▲▼ and press OK

Fig. 28.

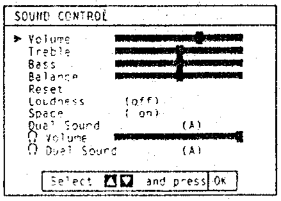

SOUND CONTROL
► Volume
Treble
Bass
Balance
Reset
Loudness (off)
Space (on)
Dual Sound (A)
∩ Volume
∩ Dual Sound (A)
Select ▲▼ and press OK

Fig. 29.

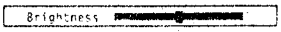

Brightness

Fig. 30.

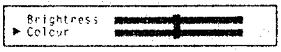

Brightness
► Colour

Fig. 31.

Effect of each control

PICTURE CONTROL	Effect	
Contrast	Less ——I—— More	
Brightness	Darker ——I—— Brighter	
Colour	Less ——I—— More	
Hue	Greenish ——I—— Reddish	
Sharpness	Softer ——I—— Sharper	
Reset	Resets picture to the factory preset levels.	
Format	4 : 3 : Normal	16 : 9 : Wide screen effect
Resolution	Normal	high : Obtain a higher quality picture

SOUND CONTROL	Effect	
Volume	Less —I— More	
Treble	Less —I— More	
Bass	Less —I— More	
Balance	More left —I— More right	
Reset	Resets sound to the factory preset levels.	
Loudness	off : Normal	on : When listening to low volume sound.
Space	off : Normal	on : Obtain acoustic sound effect.
Dual Sound	A : left channel B : right channel stereo mono The selected mode of the A-CD-B indicator on the TV lights up. (for NICAM broadcasts see next page)	
Headphones:		
∩ Volume	Less —I— More	
∩ Dual Sound	A : left channel B : right channel STEREO MONO	

If you have made a mistake:
Press ← to go back to the previous position.
To go back to the main menu:
Keep pressing ←.
To go back to the normal TV picture:
Press MENU.

Note:
HUE is only available for NTSC colour system and RESOLUTION does not work for SECAM colour system.

Note on LINE OUT:
The audio level and the dual sound mode output from the ⊖ jack on the rear correspond to the HEADPHONES VOLUME and DUAL SOUND settings.

When watching a video input source with stereo sound:
You can select DUAL SOUND to change the sound.

*Selecting Nicam Broadcasts**

This Sony TV has been designed to select Nicam broadcasts when available. Whenever a Nicam broadcast is received, "NICAM" appears briefly on the screen. When the Nicam programme ends, or you switch channels to one without Nicam, the A-CD-B indicators, on the TV will switch off.

Nicam programmes can be broadcast in two ways. You may select the sound you want to hear in either of these by first following the instructions explained on page 16.

Service Being Broadcast	**Action**	**Effect**	**Indication on the TV A-CD-B**	
Stereo	Press	Stereo Nicam (Mono 2-Channel)	■	■
	△+ or ▽−	mono	□	□
Press △+ or ▽− again to return to stereo Nicam (mono 2-channel)				
Bilingual	press	Channel A Nicam	■	□
	△+ or ▽−	Channel B Nicam	□	■
		mono	□	□
Press △+ or ▽− again to return to channel A Nicam				

* Depending on availability of service.

PROGRAMME TABLE

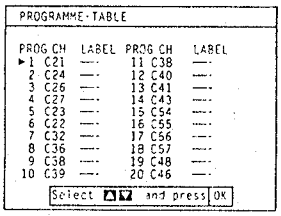
To go back to the normal TV picture:
Press MENU.

Using the Programme Table

On this table, you can see which channel is preset to which programme position. You can also select programmes using this table.

1 From the main menu, select `Programme Table` with △+ or ▽− and press OK.
The `PROGRAMME TABLE` menu appears. (See Fig. 32)
To scroll to higher programme numbers, press ▽−.

2 To select a programme using this menu select the programme number with △+ or ▽− and press OK.
The selected programme appears.



```
PROGRAMME·TABLE

PROG CH   LABEL  PROG CH   LABEL
▶ 1 C21   ---     11 C38   ---
  2 C24   ---     12 C40   ---
  3 C26   ---     13 C41   ---
  4 C27   ---     14 C43   ---
  5 C23   ---     15 C54   ---
  6 C22   ---     16 C55   ---
  7 C32   ---     17 C56   ---
  8 C36   ---     18 C57   ---
  9 C38   ---     19 C48   ---
 10 C39   ---     20 C46   ---
     Select △▽ and press OK
```

Fig. 32.

TIMER

To switch off the timer:
Select "OFF" in step 3.

To check the remaining time:
Press ⊕.

Using the Sleep Timer

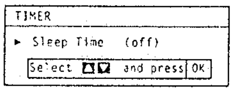
You can select a time period after which the TV automatically switches into standby mode.

1 From the main menu, select `Timer` with △+ or ▽− and press OK.
The `TIMER` menu appears. (See Fig. 33.)

2 Press OK.
The time period option changes colour.

3 Select the time period with △+ or ▽−.
The time period (in minutes) changes as follows:
10→20→30→40→50→60→70→80→90
↑————— OFF —————┘

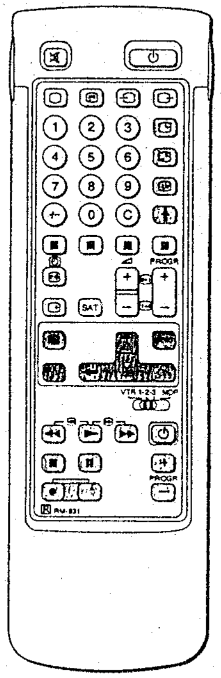
4 After selecting the time period, press OK.
The cursor moves back to the left margin and the timer starts counting.
One minute before the TV switches into standby mode, a message is displayed on the screen.



```
TIMER

▶ Sleep Time   (off)
  Select △▽ and press OK
```

Fig. 33.

Teletext



TV stations broadcast an information service called Teletext via the TV channels. Teletext service allows you to receive various information pages such as weather reports or news at any time you want. For advanced teletext operation, use the buttons on the Full-Function side of the Remote Commander.

Direct Access Functions

Switching Teletext on and off

1 Select the TV channel which carries the teletext broadcast you want to watch.

2 Press ⊜ to switch on teletext.
A teletext page will be displayed (usually the index page).If there is no teletext broadcast, P100 is displayed on the information line at the top of the screen.

To switch teletext off
Press ○.

Selecting a teletext page

With direct page selection

Use the number buttons to input the three digits of the chosen page number.
If you have made a mistake, type in any three digits. Then re-enter the correct page number. If the page counter keeps searching, the page number might not be available.

Note:
Teletext errors may occur if the broadcasting signals are weak.

With the simple side of the Remote Commander:
You can switch teletext on and off, operate Fastext, and directly select page numbers.

With page-catching

1 Select a teletext page with a page overview (e.g. index page).

2 Press OK. Using △+ or ▽–, select the desired page. "Page Catching" will be displayed on the information line. Press OK. The requested page will appear in a few seconds.

Accessing next or preceding page

Press ⊞ (PAGE +) or ⊟ (PAGE –).
The next or preceding page appears.

Superimposing the teletext display on the TV programme

- Press ⊜ once in teletext mode or twice in TV mode.
- Press ⊜ again to resume normal teletext reception.

Preventing a teletext page from being updated

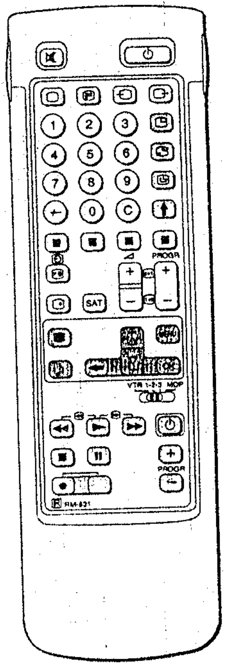
- Press ⊕ (HOLD). The HOLD symbol "⊕" is displayed on the information line.
- Press ⊜ to resume normal teletext reception.

Using Fastext

With Fastext you can access pages with one key stroke.When a Fastext page is broadcast, a colour-coded menu will appear at the bottom of the screen. The colours of this menu correspond to the red, green, yellow and blue buttons on the Remote Commander.
Press the corresponding coloured button on the Remote Commander which corresponds to the colour-coded menu. The page will be displayed after some seconds.

Note:
Fastext operation is only possible, if the TV station broadcasts Fastext signals.

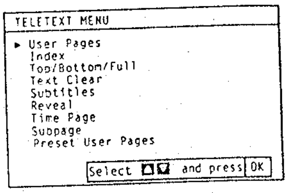
Using the Teletext Menu



This TV is provided with a menu-guided teletext system. When teletext is switched on, you can use the menu buttons to operate the teletext menu. Select the teletext menu functions in the following way:

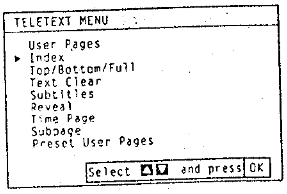
1 Press MENU. The menu will be superimposed on the teletext display. (See Fig. 34)

2 Using △+ or ▽–, select the teletext function you want and press OK. (See Fig. 35)



TELETEXT MENU
► User Pages
Index
Top/Bottom/Full
Text Clear
Subtitles
Reveal
Time Page
Subpage
Preset User Pages
Select ▲▼ and press OK

Fig. 34.



TELETEXT MENU
User Pages
► Index
Top/Bottom/Full
Text Clear
Subtitles
Reveal
Time Page
Subpage
Preset User Pages
Select ▲▼ and press OK

Fig. 35.

USER PAGES/PRESET USER PAGES

See page 19 for information about presetting and operating the user pages.

INDEX

The index will give you an overview of the contents of the teletext and the page numbers.

TOP/BOTTOM/FULL

For convenient reading of a teletext page, you can enlarge the teletext display with the ability to scroll up and down the screen. After having selected the function, an information line `Top/Bottom/Full` will be displayed. (See Fig. 36)

Press △+ for `Top` to enlarge the upper half. For `Bottom` keep pressing ▽–, to enlarge the lower half. Press OK for `Full` to resume the normal size.

Press ⊜ to resume normal teletext reception.

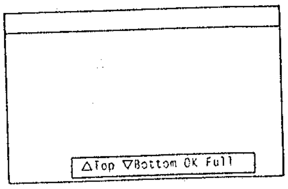


Fig. 36.

Note:
Some of the features may not be available depending on the Teletext service.

TEXT CLEAR

After having selected the function, you can watch a TV programme while waiting for a requested teletext page to be captured (The symbol changes colour) (see Fig. 37).

Press ⊜ to view the requested page.

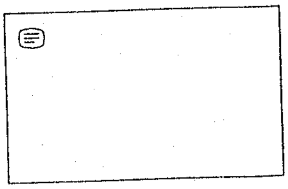


Fig. 37.

SUBTITLES

Your teletext service will inform you if a TV programme is subtitled. After having selected the function the subtitles will be displayed.

Note on Subtitles:
If the subtitles are not broadcast on page 888, please select the subtitle page using the number buttons.

REVEAL

Sometimes pages contain concealed information, such as answers to a quiz. The reveal option lets you disclose the information. After having selected the function, an information line "REVEAL ON/OFF" will be displayed. (See Fig. 38)

Using △+ or ▽–, select ON to reveal the information or OFF to conceal it again.

Press ⊜ to resume normal teletext reception.

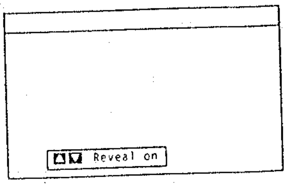


Fig. 38.

TIME PAGE

This function is not available.

SUBPAGE

You may want to select a particular teletext page from several subpages which are rotated automatically. After having selected the function, an information line will be displayed at the bottom of the screen.

To select the desired subpage, enter four digits using PROGR+/– or the number buttons. (e.g. enter 0002 for the second page of a sequence).

To cancel the request:
Select "Subpage" and press OK.

User Page Bank System

You can store up to 30 pages in the "Teletext page bank system". In this way you have quick access to the pages you watch frequently.

If two broadcasting stations use the same Teletext:
You can preset one bank to 2 different programme positions.

Storing pages

There are 5 "banks" (A to E) for 5 teletext stations. In each bank you can store 6 preferred pages (P1 to P6).

1 Press ⊜ (if Teletext is not on already) and MENU to show the TELETEXT MENU display.

2 Select `Preset User` Pages with △+ or ▽– and press OK.

3 Select the desired bank with △+ or ▽– and press OK. The cursor will go to the first position (P1) of the preferred pages.

4 Input the three digits of your first preferred page with the number buttons and press OK.
The cursor will go to the second position.

5 Repeat step 4 for the other 5 page numbers you want to preset. If you do not want to preset all 6 page numbers available, press OK without inserting any number. After having finished the presetting press OK repeatedly until the cursor appears besides the next bank at the left margin.

6 Select `Allocate Bank` with △+ or ▽– and press OK.

7 Select the programme position for which you want to preset pages with △+ or ▽– and press OK. (See Fig. 39)

8 Select the desired bank with △+ or ▽– (Banks A to E are available) and press OK.

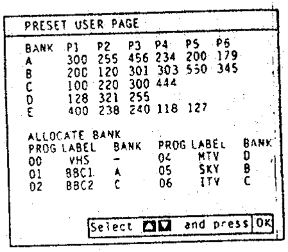
9 Repeat steps 3 to 8 for the other 4 banks available.

Displaying User Pages

1 Select MENU.

2 Select `User Pages` with △+ or ▽– and press OK.
A table of the stored preferred pages will be displayed.
(See Fig. 40)

3 Select the desired page with △+ or ▽– and press OK. The page will be displayed after some seconds.



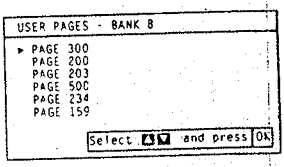
PRESET USER PAGE

BANK	P1	P2	P3	P4	P5	P6
A	300	255	456	234	200	179
B	200	120	301	303	550	345
C	100	220	300	444		
D	128	321	255			
E	400	238	240	118	127	

ALLOCATE BANK

PROG	LABEL	BANK	PROG	LABEL	BANK
00	VHS	–	04	MTV	D
01	BBC1	A	05	SKY	B
02	BBC2	C	06	ITV	C

Fig. 39.



USER PAGES - BANK B

▸ PAGE 300
PAGE 200
PAGE 203
PAGE 500
PAGE 234
PAGE 159

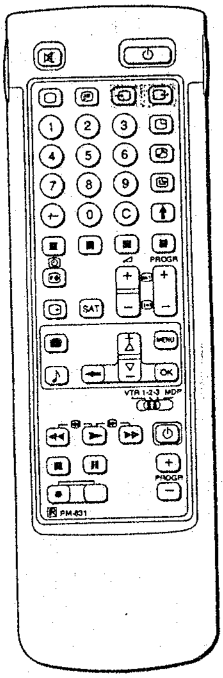
Fig. 40.

Connecting and Operating Optional Equipment

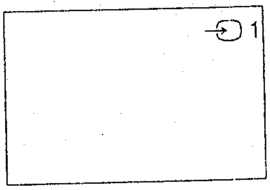
Selecting input and output

This section explains how to view the video input picture (of the video source connected to your TV), and how to select the output signal using direct access buttons or the menu system.

Selecting input with PROGR +/– or number buttons:
You can preset video input sources to the programme positions so that you can select them with PROGR +/– or number buttons.
For details, see "Preset channels manually" on page 8.



Selecting input



Press -⊖ repeatedly to select the input source.

The symbol of the selected input source will appear.

To go back to the normal TV picture

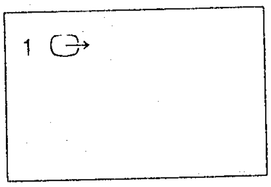
Press ○.

Input modes

Symbol	Input signal
-⊖ 1	Audio/video input through the -⊖̈ 1 connector
-⊖̈	RGB input through the -⊖̈ 1 connector
-⊖ 2	Audio/video input through the ⊖→2/-Ⓢ2 connector
-Ⓢ 2	S video input through the ⊖→2/-Ⓢ2 or -Ⓢ2 connector
-⊖ 3	Audio/video input through -⊖3 and -⊕3 on the front
-Ⓢ 3	S video input through the -Ⓢ3 connectors on the front (4-pin connector)

You can also select the input mode using the P→⊿→⊖ and –/+ buttons on the TV. In this case, first select -⊖, and then press –/+ buttons to select the input.

Selecting the output



The ⊖→2/-Ⓢ2 connector outputs the source input from the other connectors.

Press ⊖→ repeatedly to select the output.
The symbol of the selected output source appears.

Output modes

Symbol	⊖→2/-Ⓢ2 connector outputs
1 ⊖→	The audio/video signal from the -⊖̈ 1 connector
2 ⊖→	The audio/video signal from the ⊖→2/-Ⓢ2 connector
2 Ⓢ→	The audio/S video signal from the ⊖→2/-Ⓢ connector
3 ⊖→	The audio/video signal from the -⊖3, -⊕3 connectors
3 Ⓢ→	The audio/S video signal from the -Ⓢ3, -⊕3 connectors
TV⊖→	The audio/video signal from the ⊤ aerial terminal

Note on LINE OUT:
The audio level and the dual sound mode output from the ⊖→ jack on the rear correspond to the HEADPHONES VOLUME and DUAL SOUND settings.

Checking and selecting the input and output sources using the menu

You can display the menu to see which input sources are selected for the TV screen, and which output source is selected. You can also select them on the menu display.

1 Select `Video Connection` with △+ or ▽− and press OK. The `VIDEO CONNECTION` menu appears. (See Fig. 41)
You can see which source is selected for the TV and for the output. If you want to select the input and output on this menu, go on to the next step.

2 Select TV Screen (input source for the TV screen), or output (output source) with △+ or ▽− and press OK. One of the source items changes colour. (See Fig. 42)

3 Select the desired source with △+ or ▽−.
(See Fig. 43)
For details about each source, see the table on page 22.

4 Press OK.
The selected source is confirmed, and the cursor appears.
(See Fig. 44)

5 Repeat steps 2 to 4 to select the source for other inputs or outputs.

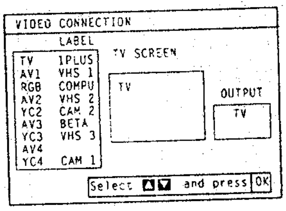

VIDEO CONNECTION
LABEL
TV 1PLUS
AV1 VHS 1
RGB COMPU
AV2 VHS 2
YC2 CAM 2
AV3 BETA
YC3 VHS 3
AV4
YC4 CAM 1
TV SCREEN
TV
OUTPUT
TV
Select ▲▼ and press OK

Fig. 41.

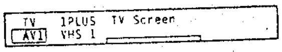

TV 1PLUS TV Screen
AV1 VHS 1

Fig. 42.

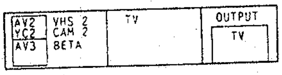

AV2 VHS 2
YC2 CAM 2
AV3 BETA
TV
OUTPUT
TV

Fig. 43.

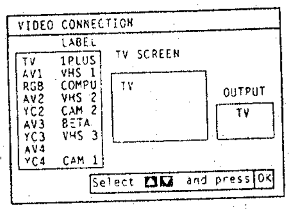

VIDEO CONNECTION
LABEL
TV 1PLUS
AV1 VHS 1
RGB COMPU
AV2 VHS 2
YC2 CAM 2
AV3 BETA
YC3 VHS 3
AV4
YC4 CAM 1
TV SCREEN
TV
OUTPUT
TV
Select ▲▼ and press OK

Fig. 44.

Remote Control of Other Sony Equipment

You can use the TV Remote Commander to control most Sony remote-controlled video equipment such as: Beta, 8mm or VHS VTRs or video disc players.

Tuning the Remote Commander to the equipment

1 Set the VTR 1/2/3 MDP selector according to the equipment you want to control:

VTR 1: Beta or ED Beta VTR

VTR 2: 8mm VTR

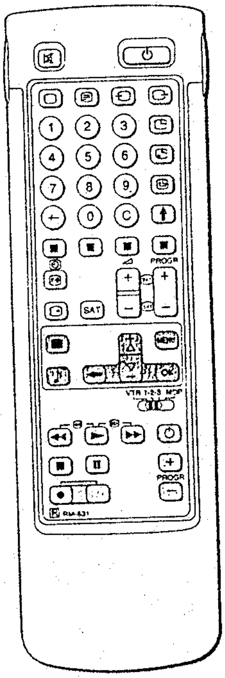
VTR 3: VHS VTR

MDP: Video disc player

2 Use the buttons indicated in the illustration to operate the additional equipment.

If your video equipment is furnished with a COMMAND MODE selector: set this selector to the same position as the VTR 1/2/3 MDP selector on the TV Remote Commander.

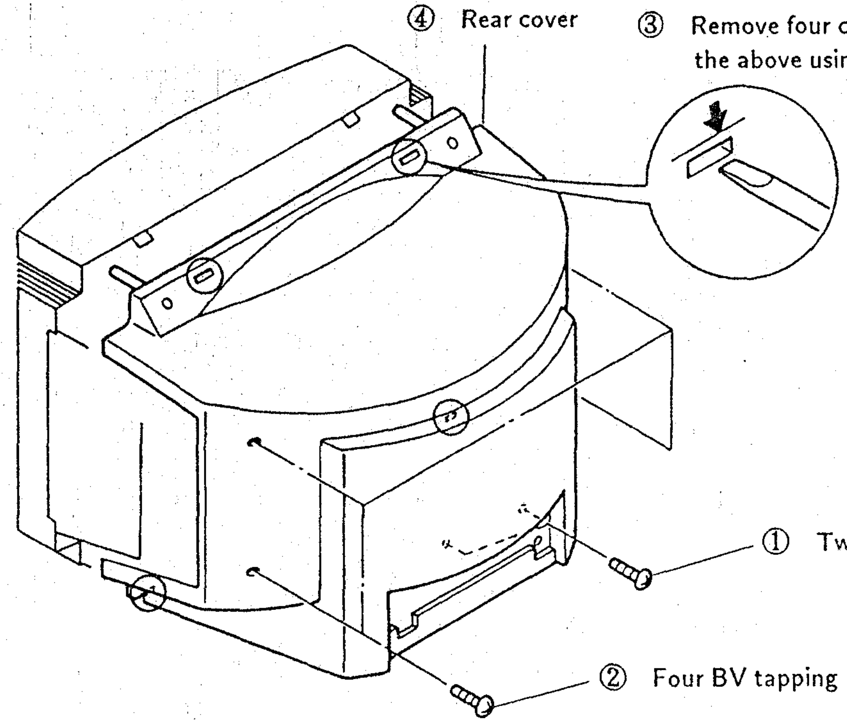
If the equipment does not have a certain function, the corresponding button on the Remote Commander will not operate.



When recording
When you use the ● (record) button, make sure to press this button and the one to the right of it simultaneously.

SECTION 2
DISASSEMBLY

2-1. REAR COVER REMOVAL



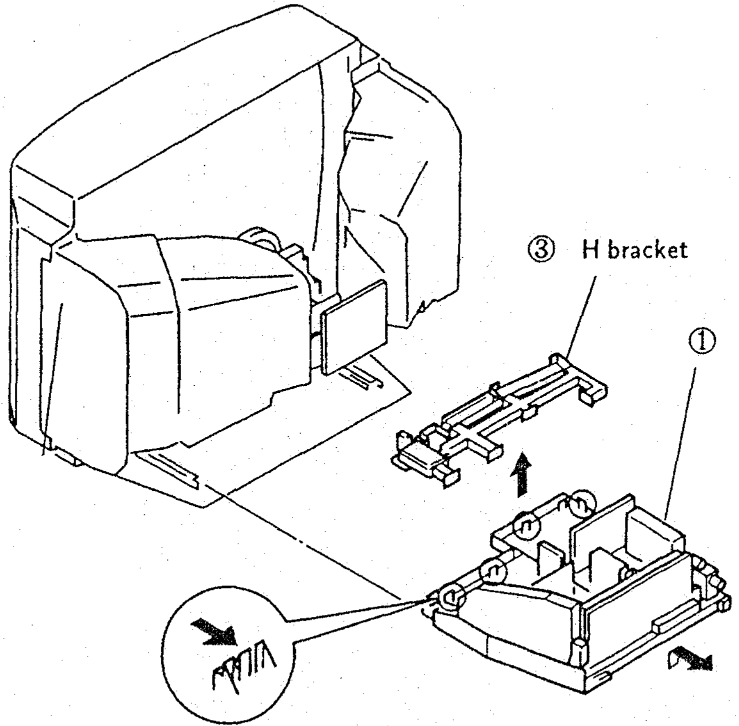
④ Rear cover

③ Remove four claws push diagonally from the above using a flat head screwdriver.

① Two BV tapping screws (4×16)

② Four BV tapping screws (4×16)

2-2. CHASSIS ASSY REMOVAL

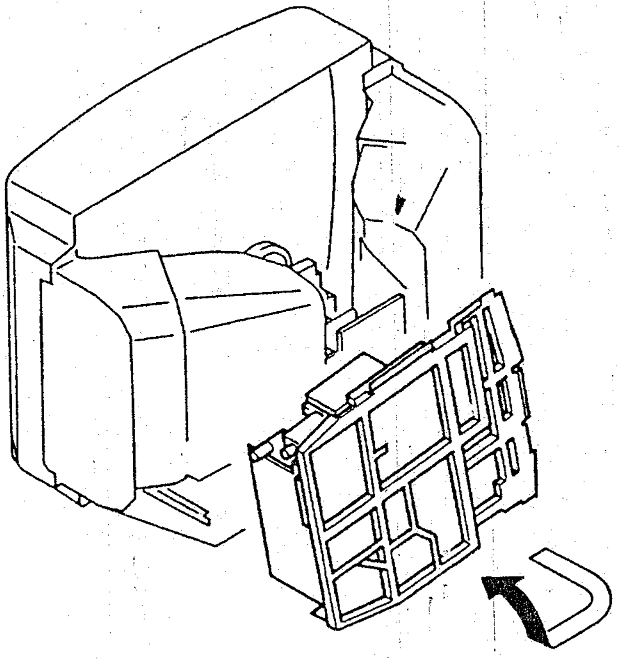


③ H bracket

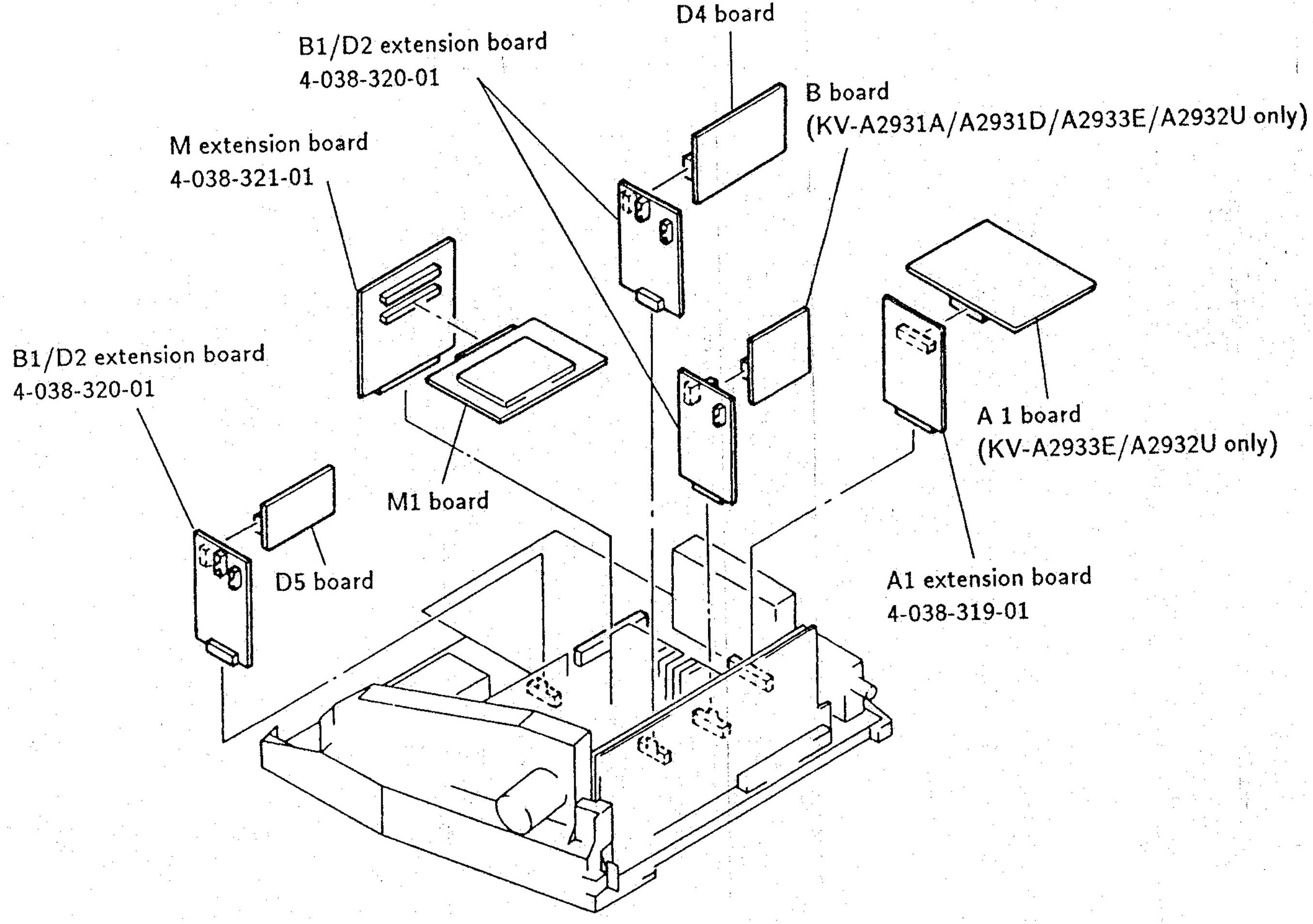
① After the assembly of the main chassis, lift and pull out the rear part of the main chassis toward the rear.

② Push the four claws of the main chassis in the direction of the arrow and remove the H bracket upwards.

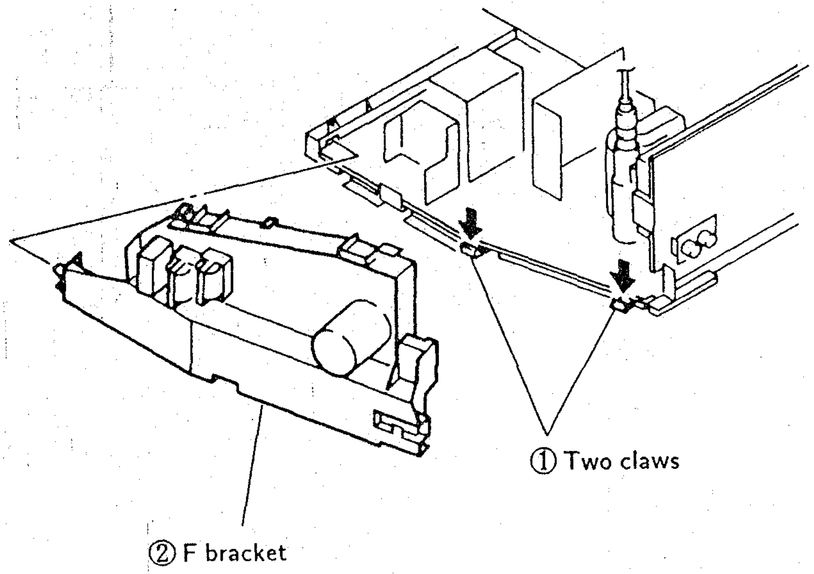
2-3. SERVICE POSITION



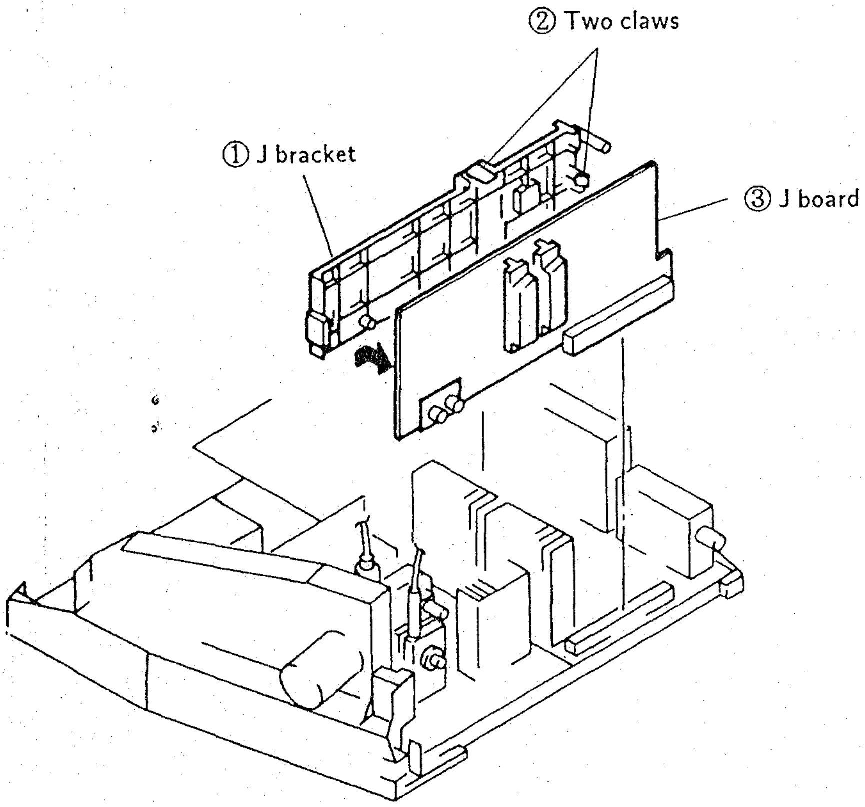
2-4. EXTENSION BOARD


D4 board
B1/D2 extension board
4-038-320-01
B board
(KV-A2931A/A2931D/A2933E/A2932U only)
M extension board
4-038-321-01
B1/D2 extension board
4-038-320-01
A 1 board
(KV-A2933E/A2932U only)
M1 board
D5 board
A1 extension board
4-038-319-01

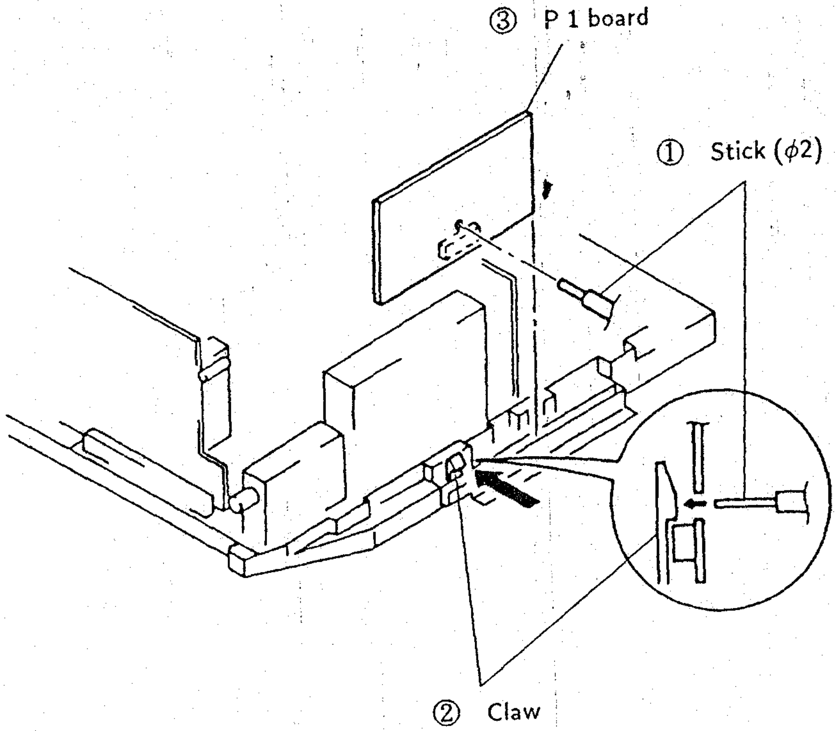
2-5. F BRACKET REMOVAL


① Two claws
② F bracket

2-6. J BOARD REMOVAL

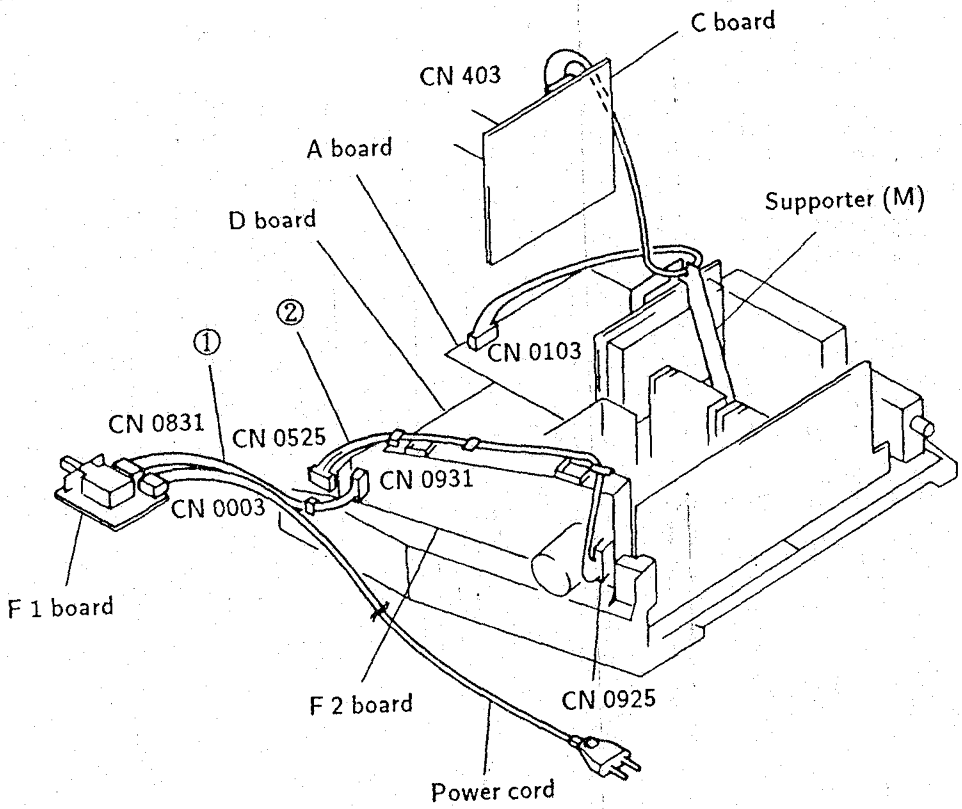

② Two claws
① J bracket
③ J board

2-7. P1 BOARD REMOVAL (KV-A2931B only)

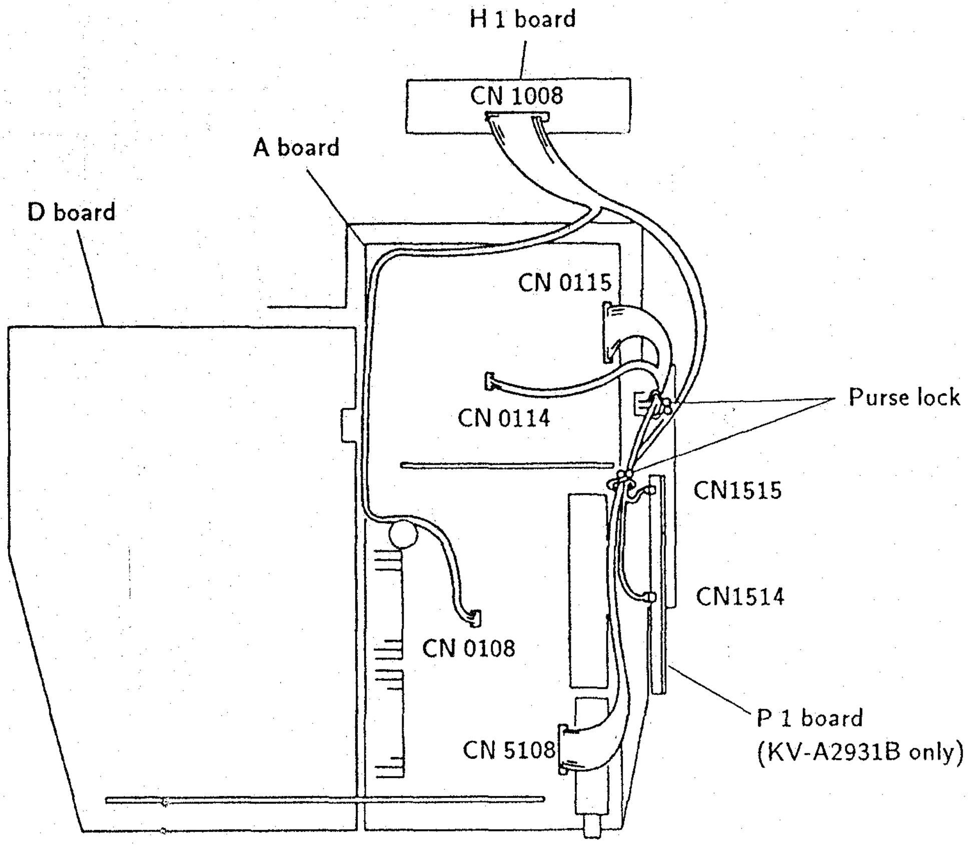

③ P 1 board
① Stick (ϕ2)
② Claw

2-8-1. WIRE DRESSING

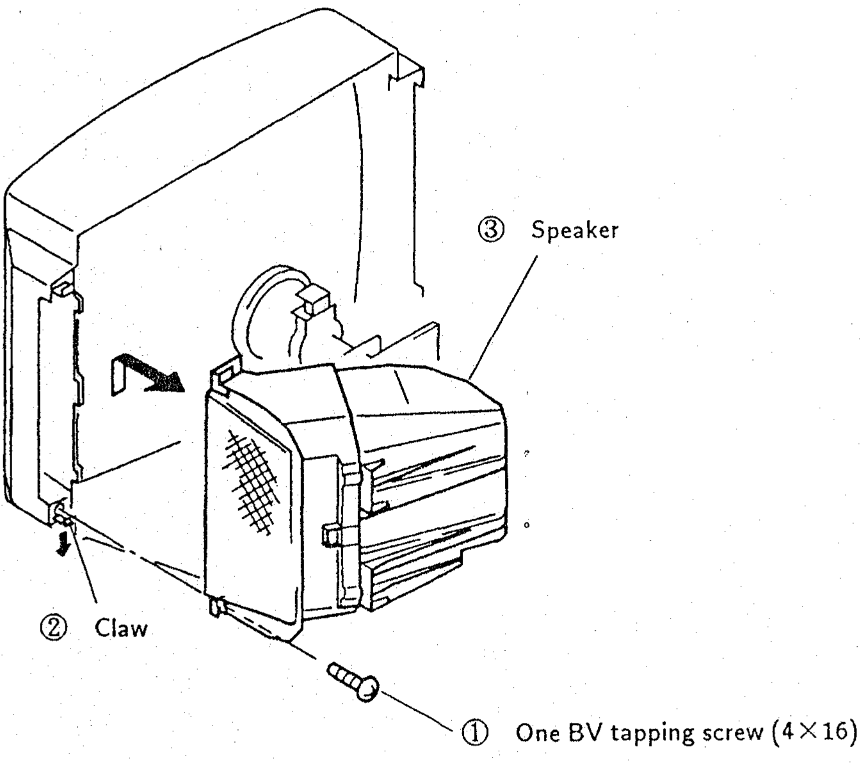
※ Keep distance between ① and ②


C board
CN 403
A board
Supporter (M)
D board
②
①
CN 0103
CN 0831
CN 0525
CN 0931
CN 0003
F 1 board
F 2 board
CN 0925
Power cord

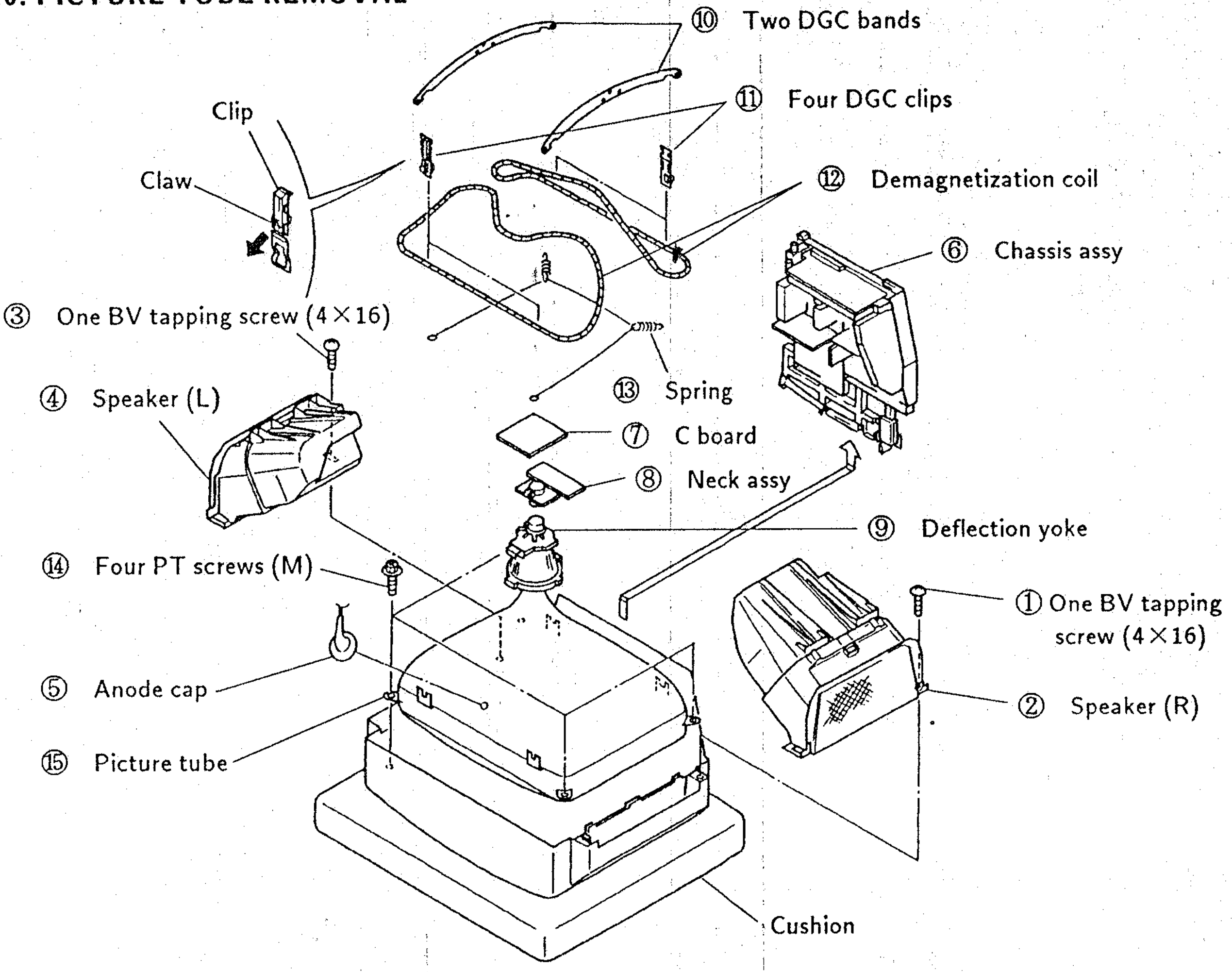
2-8-2. WIRE DRESSING


H 1 board
CN 1008
A board
D board
CN 0115
CN 0114
Purse lock
CN1515
CN1514
CN 0108
CN 5108
P 1 board
(KV-A2931B only)

2-9. SPEAKER REMOVAL


③ Speaker
② Claw
① One BV tapping screw (4×16)

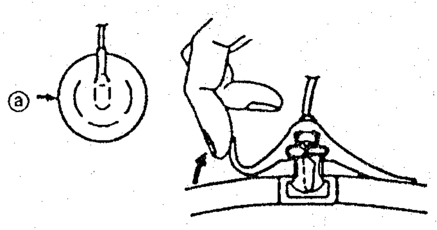
2-10. PICTURE TUBE REMOVAL


⑩ Two DGC bands
⑪ Four DGC clips
Clip
Claw
⑫ Demagnetization coil
⑥ Chassis assy
③ One BV tapping screw (4×16)
④ Speaker (L)
⑬ Spring
⑦ C board
⑧ Neck assy
⑨ Deflection yoke
⑭ Four PT screws (M)
① One BV tapping screw (4×16)
⑤ Anode cap
② Speaker (R)
⑮ Picture tube
Cushion

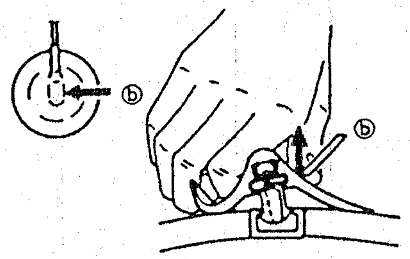
• REMOVAL OF ANODE-CAP

NOTE : Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon paint on the CRT, after removing the anode.

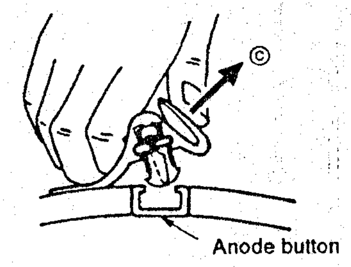
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.


ⓒ
Anode button

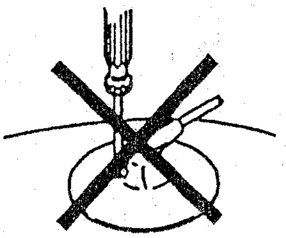
③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

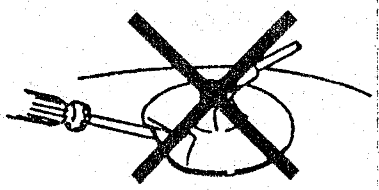
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with sharp shaped material!

② Don't press the rubber hardly not to hurt inside of anode-caps!
A material fitting called as shatter-hook terminal is built in the rubber.

③ Don't turn the foot of rubber over hardly!
The shatter-hook terminal will stick out or hurt the rubber.





SECTION 3

SET-UP ADJUSTMENTS

- When complete readjustment is necessary or a new picture tube is installed, carry out the following adjustments.
- Unless there is specific instruction to the contrary, carry out these adjustments with the rated power supply.
- Unless there is specific instruction to the contrary, set the controls and switches this way :

◑ Contrast .... 80% (or remote control normal)

☼ Brightness 50%

- Carry out the following adjustments in this order :

1. Beam landing
2. Convergence
3. Focus
4. White balance

Note: Testing equipment required.

1. Color bar/pattern generator
2. Degausser
3. DC power supply
4. Digital multimeter
5. Oscilloscope

Preparations:

- In order to reduce the influence of geomagnetism on the set's picture tube face it east or west.
- Switch on the set's power and degauss with the degausser.

3-1. BEAM LANDING

1. Input the white signal with the pattern generator.
   Contrast } normal
   Brightness }
2. Position neck assy as shown in Fig.3-2.
3. Set the pattern generator raster signal to red.
4. Move the deflection yoke to the rear and adjust with the purity control so that the red is at the center and the blue and the green take up equally sized areas on each side. (See Fig.3-1 - 3-3)
5. Move the deflection yoke forward and adjust so that entire screen is red. (See Fig.3-1)
6. Switch the raster signal to blue, then to green and verify the condition.
7. When the position of the deflection yoke has been decided, fasten the deflection yoke with the screws.
8. If the beam does not land correctly in all the corners, use a magnet to adjust it. (See Fig.3-4)

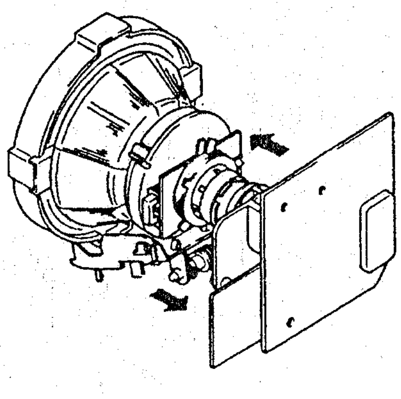
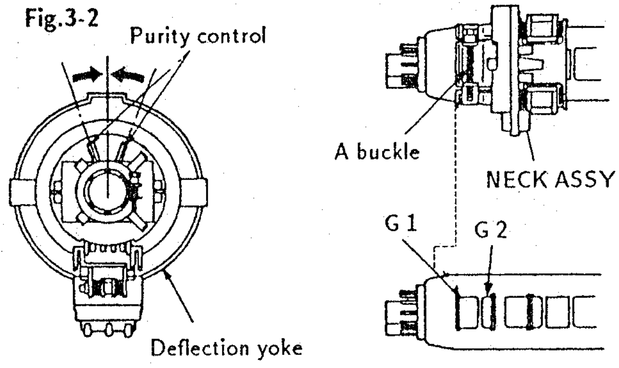


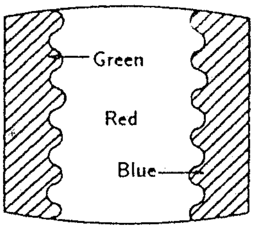
Fig.3-1

Fig.3-2

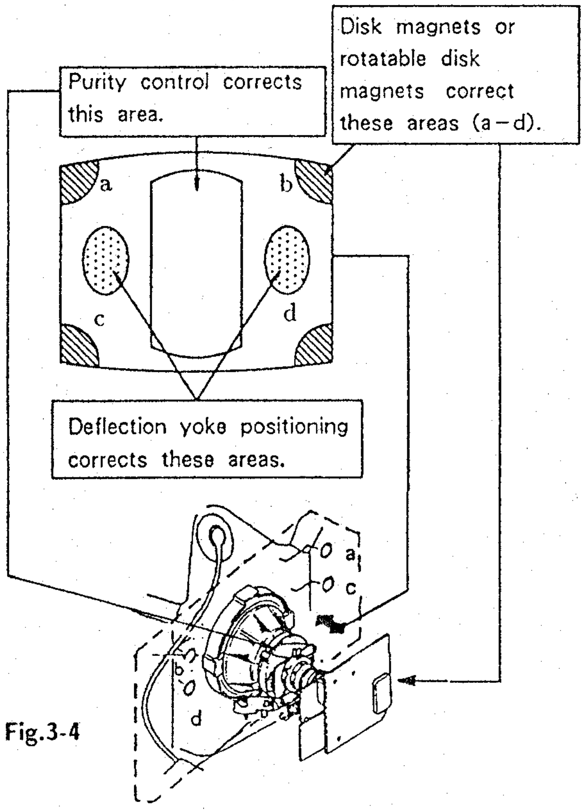


Purity control
A buckle
NECK ASSY
G 1
G 2
Deflection yoke

Fig.3-3



Green
Red
Blue



Disk magnets or rotatable disk magnets correct these areas (a–d).
Purity control corrects this area.
a
b
c
d
Deflection yoke positioning corrects these areas.
a
c
b
d

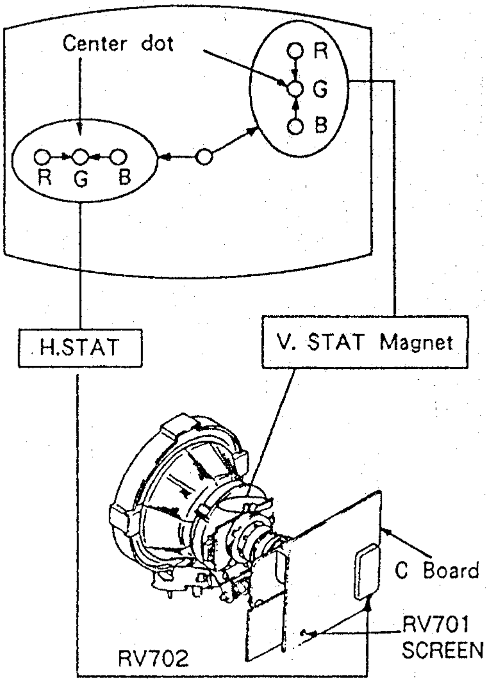
Fig.3-4

3-2. CONVERGENCE

Preparations :

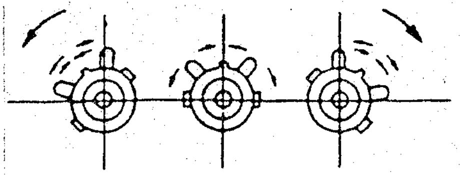
- Before starting this adjustment, adjust the focus, horizontal size, and vertical size.
- Minimize the brightness setting.
- Provide dot pattern.

(1) Horizontal and vertical static convergence

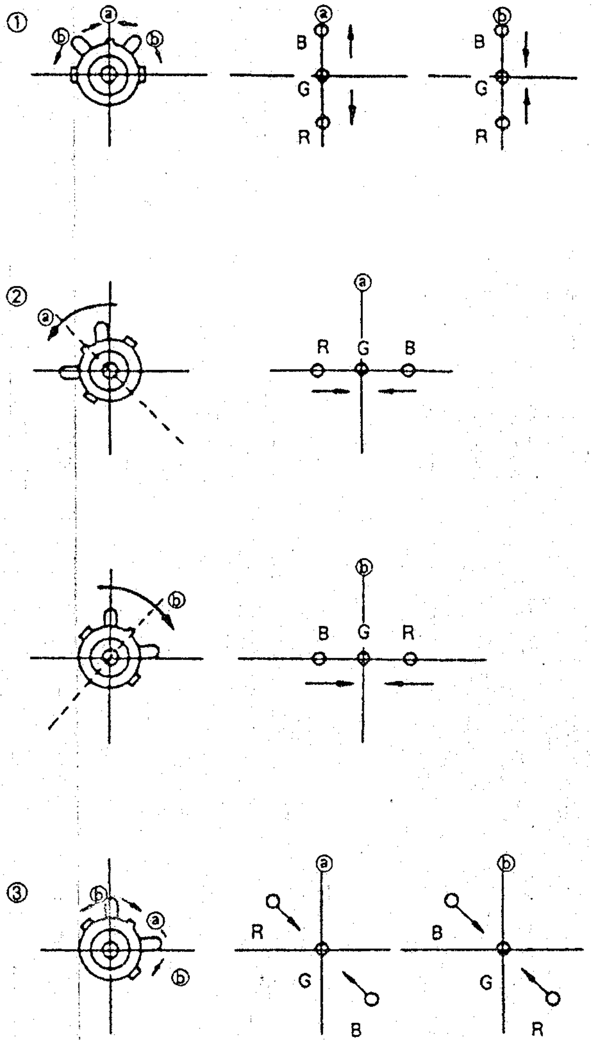


1. (Moving horizontally), adjust the H.STAT control so that the red, green, and blue points are on top of each other at the center of the screen.
2. (Moving vertically), adjust the V.STAT magnet so that the red, green, and blue points are on top of each other at the center of the screen.
3. If the H.STAT variable resistor cannot bring the red, green, and blue points together at the center of the screen, adjust the horizontal convergence with the H.STAT variable resistor and the V. STAT magnet in the manner given below.
   (In this case, the H.STAT variable resistor and the V.STAT magnet influence each other)

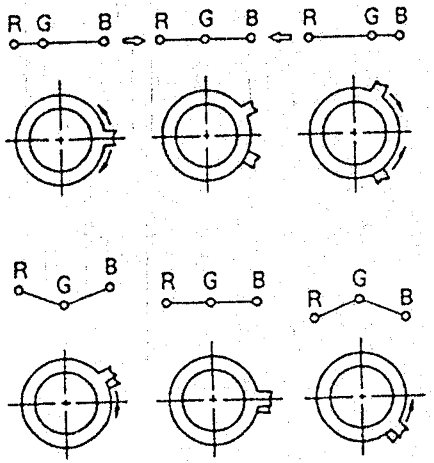
- Tilt the V.STAT magnet and adjust the static convergence by opening or closing the V.STAT magnet.



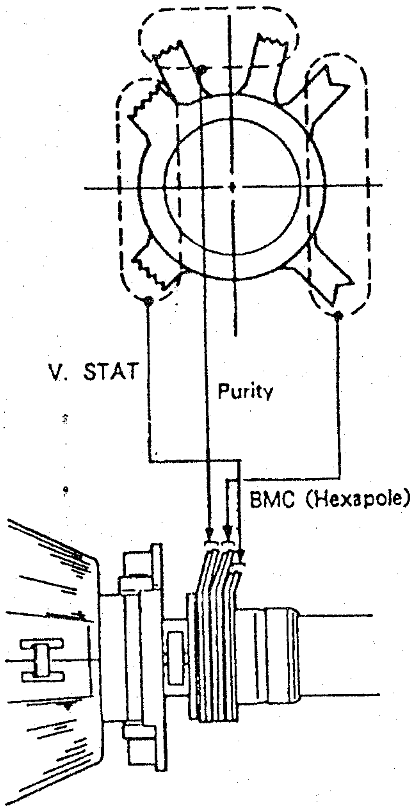
4. If the V.STAT magnet is moved in the direction of the ⓐ and ⓑ arrows, the red, green, and blue points move as shown below.



- Operation of BMC (Hexapole) Magnet


R G B
R G B
R G B
R G B
R G B
R G B

- The respective dot positions resulting from moving each magnet interact, so be sure to perform adjustment while tracking.
  Use the H.STAT VR to adjust the red, green, and blue dots so they coincide at the center of screen (by moving the dots in the horizontal direction).

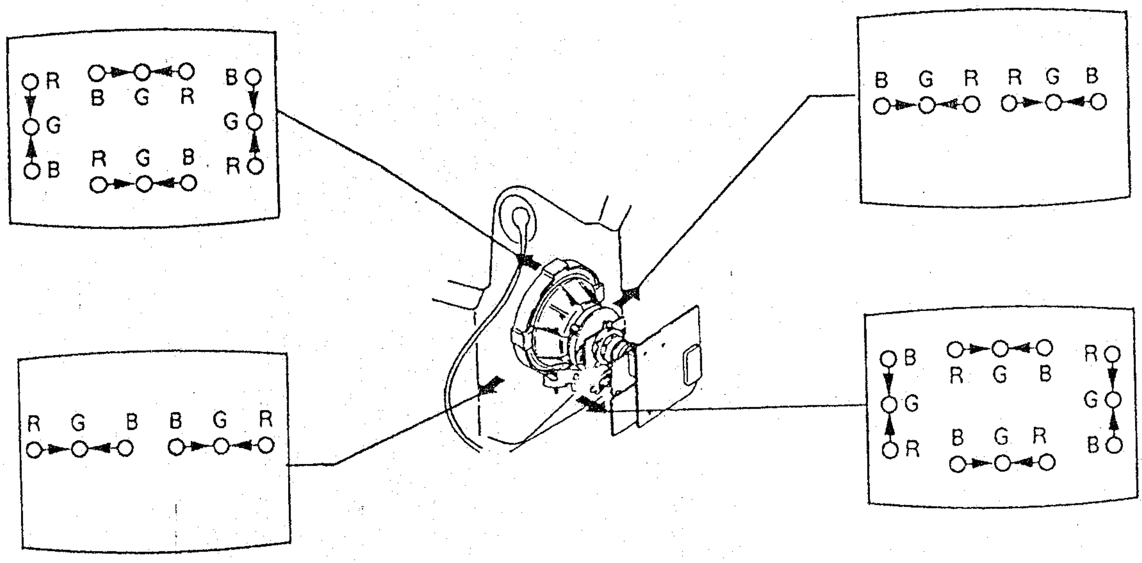

V. STAT
Purity
BMC (Hexapole)

(2)Dynamic convergence adjustment

Preparations :

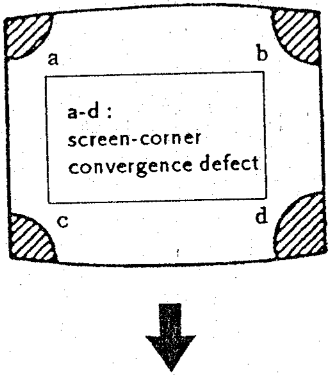
- Before starting this adjustment, adjust the horizontal static convergence and the vertical static convergence.

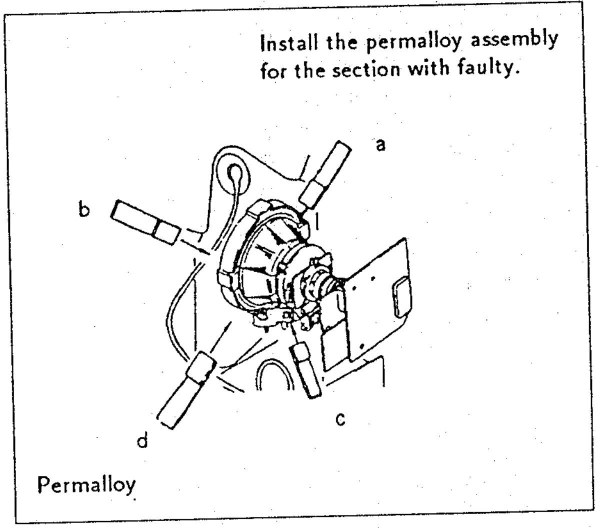
1. Slightly loosen the deflection yoke screws.
2. Remove the deflection yoke spacer.
3. Move the deflection yoke as shown in the figure below and optimize the convergence.
4. Tighten the deflection yoke screws.
5. Install the deflection yoke spacer.


R
G
B
B G R
R G B
B
G
R
B G R R G B
R G B B G R
B
G
R
R G B
B G R
R
G
B

(3) Screen corner convergence

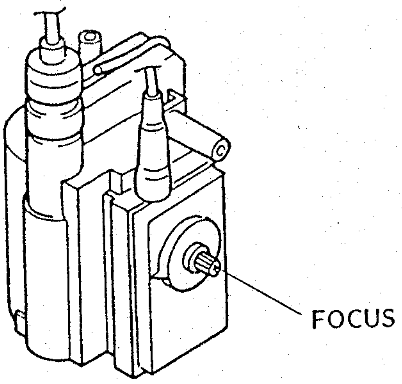
If you cannot adjust corner convergence properly, correct them with permalloy.





3-3. FOCUS

Adjust the focus to optimize the screen.



3-4. WHITE BALANCE

Screen G2 Setting

1. Input the dot signal from the pattern generator.
2. Set the picture brightness control to its lowest level.
3. Apply 180V DC to the R,G, and B cathodes with an external power supply.
4. While watching the picture, adjust G 2 control RV 701 (Screen) to the point just before the return lines disappear.

White balance adjustment

1. Receive all-white signal.
2. Enter into service mode. (Refer to the section 4 "Electrical Adjustment" to how to enter service mode.)
3. Select CXA1587S on menu.

09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.

4. Set picture to MAX.
5. Adjust G-DRIVE B-DRIVE with ▲, ▼ buttons so that the white balance becomes optimum.
6. Press OK button to write the data for each item.
7. Set picture to MIN.
8. Adjust G-AUTO CUT OFF, B-AUTO CUT OFF, R-MANUAL CUT OFF, G-MANUAL CUT OFF and B-MANUAL CUT OFF with ▲, ▼ buttons so that the white balance becomes optimum.
9. Press OK button to write the data for each item.

SECTION 4
CIRCUIT ADJUSTMENTS

4-1. ELECTRICAL ADJUSTMENTS

Service adjustment to this model can be performed with the supplied remote commander RM-831.

HOW TO ENTER INTO SERVICE MODE

1. Turn on the main power switch of the set while pressing any two buttons on the front panel.

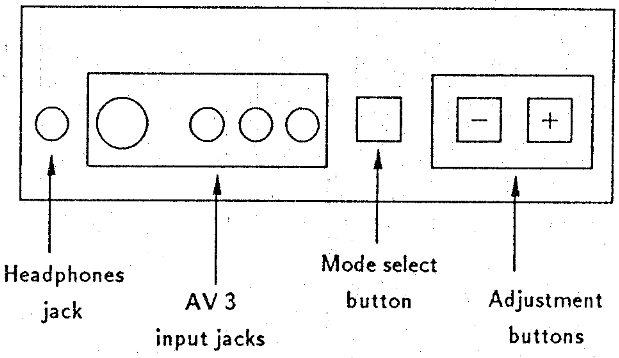


Fig.4-1

2. "TT" will appear on the upper right corner of the screen.

Command operation in service mode

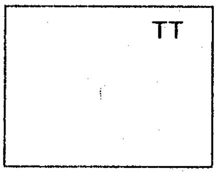
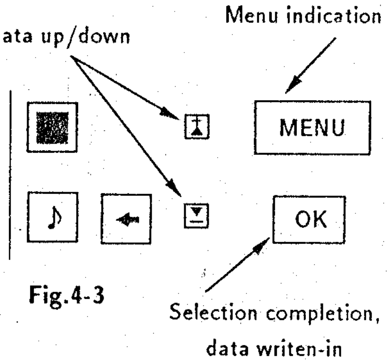


Fig.4-2



Item selection, data up/down
Menu indication
MENU
OK
Selection completion, data writen-in

Fig.4-3

3. Press the MENU button of the commander to get the menu on screen.

MAIN MENU

Programme Table
Video Connection
Picture Control
Sound Control
Timer
Preset
Language
> DEMO
Select < > and press OK

Fig.4-4

4. Press the ▲ and ▼ buttons of the commander and move > to DEMO.
5. Press OK button to proceed to the next menu.
6. The menu of fig.4-5 will appear on screen. Select DEVICE corresponding to the adjustment item from the table on next page.

DEVICE

Initialize
> CXA1587S
CXD 2018
TDA 9145
TDA 1526
TDA 6612
CXA 7948 A
P/P service
Select < > and press OK

Fig.4-5

7. If adjustment item is CXA1587S, press the ▼ button and move > to CXA1587S.

CXA 1587 S

	Item No.	Adjustment item	Data Amout
	01	PICTURE	3
	02	COLOR	1
	03	BRIGHT	1
	04	HUE	1
	05	SHARPNESS	7
	06	RGB PICTURE	3
	07	SUB CONTRAST	ADJ.
	08	SUB COLOR	ADJ.
>	09	SUB BRIGHT	ADJ.
	10	SUB HUE	7
	11	VM LEVEL	2
	12	NR LEVEL	0
	13	ABL MODE	0
	14	G-DRIVE	ADJ.
	15	B-DRIVE	ADJ.

8. Press OK button to get the next selection menu.
9. Press ▼ button and move > to the adjustment item and press OK button.
10. Press the ▲ and ▼ buttons to change the data in order to comply each standard.
11. Press OK button to write data.
12. Turn off the power to quit service mode when completing the adjustment.

CXA 1587 S

01	PICTURE	53
02	COLOR	31
03	BRIGHT	31
04	HUE	31
05	SHARPNESS	7
06	RGB PICTURE	13
07	SUB CONTRAST	ADJ.
08	SUB COLOR	ADJ.
09	SUB BRIGHT	ADJ.
10	SUB HUE	7
11	VM LEVEL	2
12	NR LEVEL	0
13	ABL MODE	0
14	G-DRIVE	ADJ.
15	B-DRIVE	ADJ.
16	G-AUTO CUT OFF	ADJ.
17	B-AUTO CUT OFF	ADJ.
18	R-MANUAL CUT OFF	ADJ.
19	G-MANUAL CUT OFF	ADJ.
20	B-MANUAL CUT OFF	ADJ.
21	GAMMA LEVEL	0
22	DC TRANSFER RATIO	3
23	DINAMIC PICTURE	0
24	Y FILTER ADJ	ADJ.
25	Y DELAY TIME	15
26	Y DELAY SWITCH 1	0
27	Y DELAY SWITCH 2	1
28	SHARPNESS LIMIT	ON
29	ALL BLK	OFF
30	H SHIFT	31
31	DAC TEST	ON
32	PRE/OVER SHOOT	12
33	SHARPNESS FO	2
34	SUB SHARPNESS	3
35	R MUTE	OFF
36	G MUTE	OFF
37	B MUTE	OFF
38	AGING 1	OFF
39	AGING 2	OFF
40	AKB OFF	ON
41	INHIBIT RGB	OFF
42	FORCED RGB	OFF
43	V/2 V	OFF
44	AXIS	PAL
45	HUE SW	OFF
46	V EXTENTION	OFF
47	AFC 1	1
48	AFC 2	0
49	AFC OFF	ON
50	REF.POSITION	0

CXD 2018 Q

01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP.V	13
13	HV COMP.H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAM	OFF
19	INTERLACE	ON
20	H SHIFT	32
21	N/S CORRECTION	ADJ.

Typical Value (OSD based)when receiving PAL Philips pattern.

TDA 6612	ADJ.
Stereo-Separation	(30)

Should be adjusted twice 4 : 3 and 16 : 9 mode.

Y FILTER ADJUSTMENT

1. Input PAL RED pattern.
2. Connect an oscilloscope to CN 0403 ① pin (R IN) on the C board.
3. Enter into service mode and press 3, 8.
4. Adjust data by △ or ▽ to minimize the chroma element of CN 0403 ① pin.

SUB BRIGHTNESS ADJUSTMENT

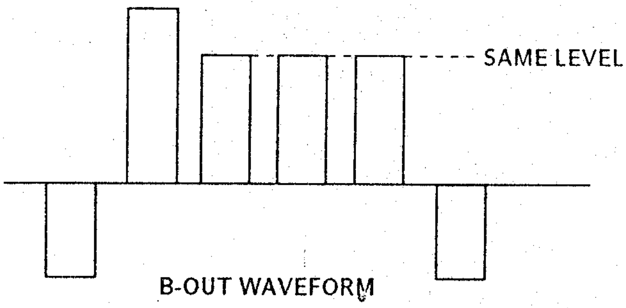
1. Input Phillips pattern.
2. Enter into service mode and press 23.
3. Adjust data so that 0-IRE of the grey scale and CUT -OFF 20-IRE glitter slightly.

SUB CONTRAST ADJUSTMENT

1. Input a video that contains small 100% area on the Black Back ground.
2. Enter into service mode and press 01 to have PIC max followed by 21.
3. Adjust data so that 2.5 Vp-p can be obtained at ① CN 0403 (R IN).

SUB COLOR ADJUSTMENT

1. Input PAL color bar.
2. Connect an oscilloscope to CN 0403 ③ pin (B IN) on the C board.
3. Enter into service mode and press 22 of CXA 1587 S, 8 SUB COLOR.
4. Adjust data so that the right sides of the waveform will be the same.



B-OUT WAVEFORM

STEREO-SEPARATION ADJUSTMENT

1. Input 1 kHz stereo signal to the L-ch and 400 Hz stereo signal to the R-ch.
2. Enter into service mode and press 19.
3. Adjust data so that sound does not leak to the R-ch and the L-ch.

DRIVE AND CUT OFF

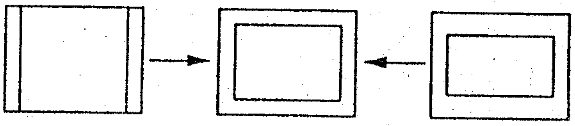
See direct test mode list attached and refer to sub brightness or such for adjustment method.

DEFLECTION SYSTEM ADJUSTMENT

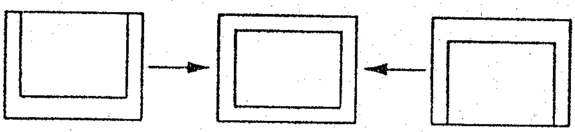
1. Enter into service mode and select CXD 2018 Q.
2. Select and adjust each item in order to get an optimum image.

01	V SIZE	ADJ.
02	V SHIFT	ADJ.
03	S CORRECTION	ADJ.
04	V LINEARITY	ADJ.
05	H SIZE	ADJ.
06	PIN AMP	ADJ.
07	TILT	ADJ.
08	UPPER CORNER	ADJ.
09	LOWER CORNER	ADJ.
10	V BOW	ADJ.
11	ANGLE	ADJ.
12	HV COMP.V	13
13	HV COMP.H	8
14	FRAME SHIFT	OFF
15	FREE RUN 60 Hz	OFF
16	SYSTEM 60 Hz	OFF
17	ASPECT WIDE	OFF
18	DOUBLE SCAM	OFF
19	NON INTERLACE	ON
20	H SHIFT	31
21	N/S CORRECTION	ADJ.

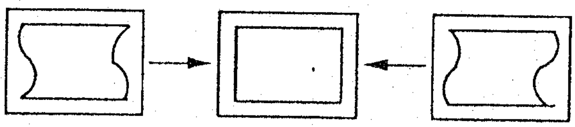
V SIZE



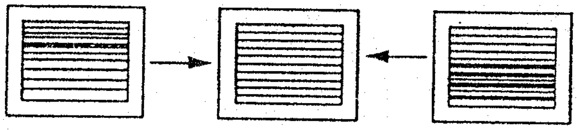
V SHIFT



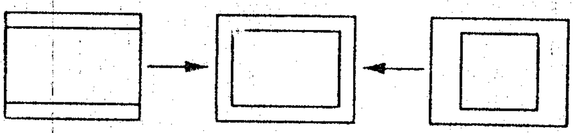
S CORRECTION



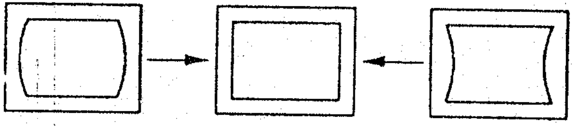
V LINEARITY



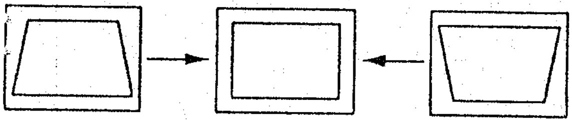
H SIZE



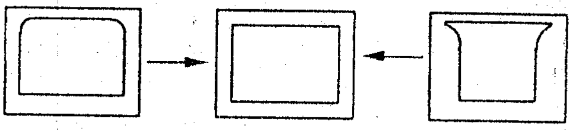
PIN AMP



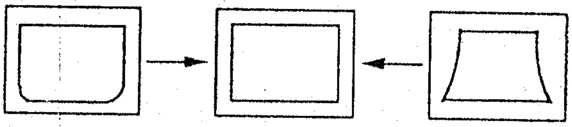
TILT



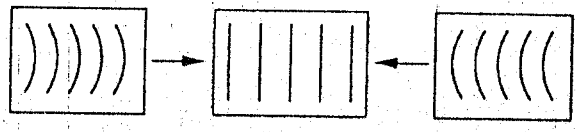
UPPER CORNER PIN



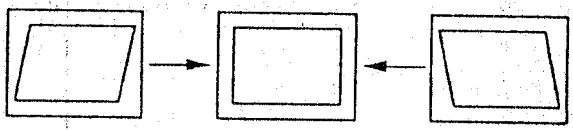
LOWER CORNER PIN



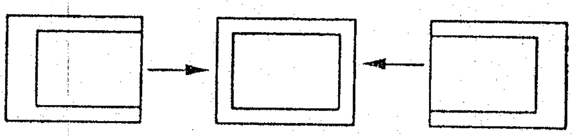
V BOW



ANGLE



H SHIFT

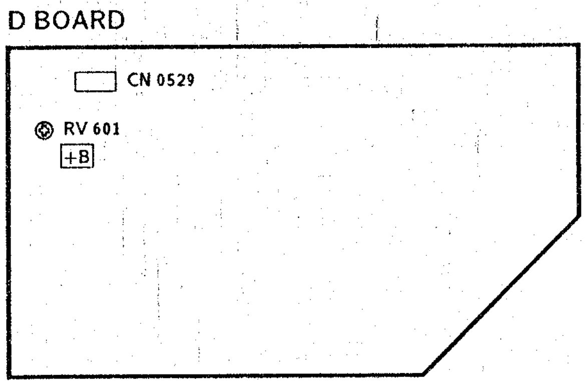


3. Press OK button to write the data.

If menu display may disturb the adjustment press ⊠ to clear, to resume it, press ⊠ again.

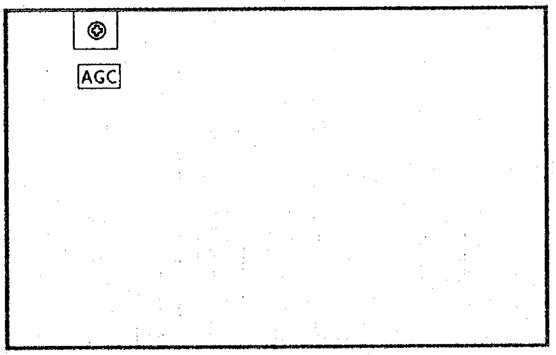
4-2. VOLUME ELECTRICAL ADJUSTMENTS

+B (+135 V) ADJUSTMENT (RV 601)



1. Turn on the power of the TV set.
2. Connect a digital multi-meter to ① pin of CN 0529 on D board.
3. Adjust RV 601 on D board to +135 V.

AGC ADJUSTMENT (IF BLOCK)



1. Receive off-air signal.
2. Adjust AGC VR so that there is no snow noise and cross-modulation.
3. Change receiving channel and confirm status.

4-3. TEST MODE 2 :

Is available by pressing Test button two times, OSD "TT"appears. The functions described bellow are available by pressing the two numbers. To release the Test Mode 2, press two times 0, or switch TV in Standby Mode.

00	switch Test Mode 2 off
01	picture maximum
02	picture minimum
03	Volume 35%
04	Volume 50%
05	Volume 65%
06	Volume 80%
07	Aging Condition (Volumin., Picture max., Brightness max., Aging 2 Mode of CXA 1587S, TDA 2595 is locked to CXA 1587S via PIN 34 of μ-Con.)
08	Shipping Condition (Analog Values are RESET due to factory setting, Prog 1 is selected, TT Mode is switched off)
09	dummy
10	Tenth entry is deleted
11	Balance
12	Hue
13-14	dummy
15	Read factory setting from NVM Reads Volume, Balance, Treble, Bass, Brightness, Contrast, Hue, Sharpness, Colour values from ROM to the actual used values (Last Power Memory)
16	Save actual used values as RESET values Memorize actual used values Balance, Treble, Bass, Hue, Sharpness at RESET position in NVM
17	Preset Lavel for AV Sources
18	dummy
19	Stereo Seperation
20	Tenth entry is deleted
21	Sub Contrast
22	Sub Colour
23	Sub Brightness
24-29	dummy

30	Tenth entry is deleted
31	Green Drive
32	Blue Drive
33	Green Cut Off (Auto Cut Off)
34	Blue Cut Off (Auto Cut Off)
35	Red Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
36	Green Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
37	Blue Cut Off (Manual Cut Off) (Auto Cut Off is switched off)
38	Y-Filter adjustment (Trap is switched off and TDA 9145 is switched in forced NTSC Mode)
39	dummy
40	Tenth entry is deleted
41	Default setting of CXA 1587S (Only in Plog 99 available)
42	Default setting of CXA 2018Q (Only in Plog 99 available)
43	Default setting of CXA 1526 (Only in Plog 99 available)
44	(all Port High) Not yet
45	(all Port High) Not yet
46-48	dummy
49	Erease the NVM Testbyte (this byte detects already stored NMV's) After selecting this function, switch TV Off and On → the NVM will be preset by μ-Controller. (Not the channel data)

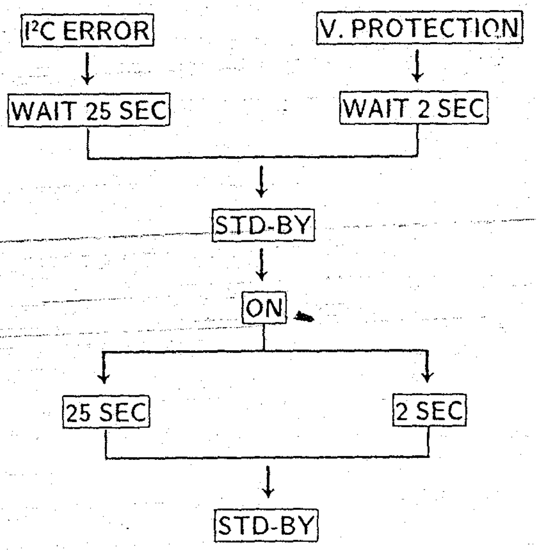
Note: For No. 35, 36, 37 and 38 special pressing (AKB, forced Color Mode, Trap) is selected. After selecting a new Test Mode Number, the AKB is switched ON, the Trap is switched On and TDA 9145 is switched to Auto Search Mode.

In Test Mode 2 the Menu display is switchable by Speaker-Off button.

4-4. ERROR MESSAGE

Self diagnos system can operates as follows.

- When MP can't get the acknowledge back from the device, LED starts flashing according to the table as attached.



In case of more errors in parallel, the blinking error shows max. Priority according to the error number (e.g. error 2 and error 5 appears together, then LEDs shows error 2) .

TABLE OF ERRORS

ERROR COUNT	IC TYPE	FUNCTION
1	ⅡC BUS	SDA low
2	X 24 C 16	EEPROM
3	SDA 3202	Tuner Pll
4	TDA 9145	Colour decoder
5	CXA 1587S	RGB/Jungle
6	TDA 6612	Sound processor
7	CXD 2018Q	V deflection
8	CXA 1545	AV switch
11	SDA 5248	Text
13		V protection

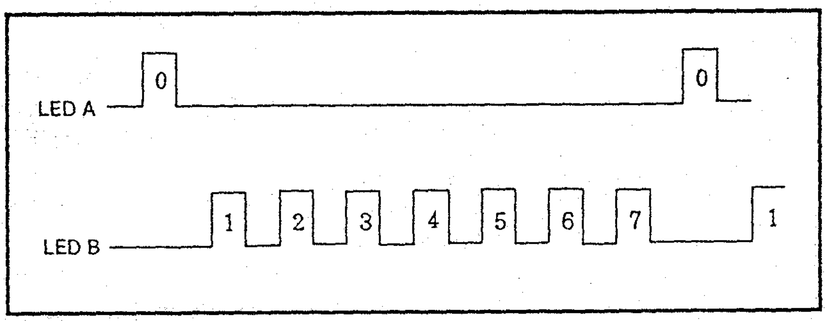
Stand by LED blinking

No IK return

4-5. ERROR Ⅱ C BUS DIAGNOSIS SYSTEM IN AE-2A CHASSIS AVAILABLE

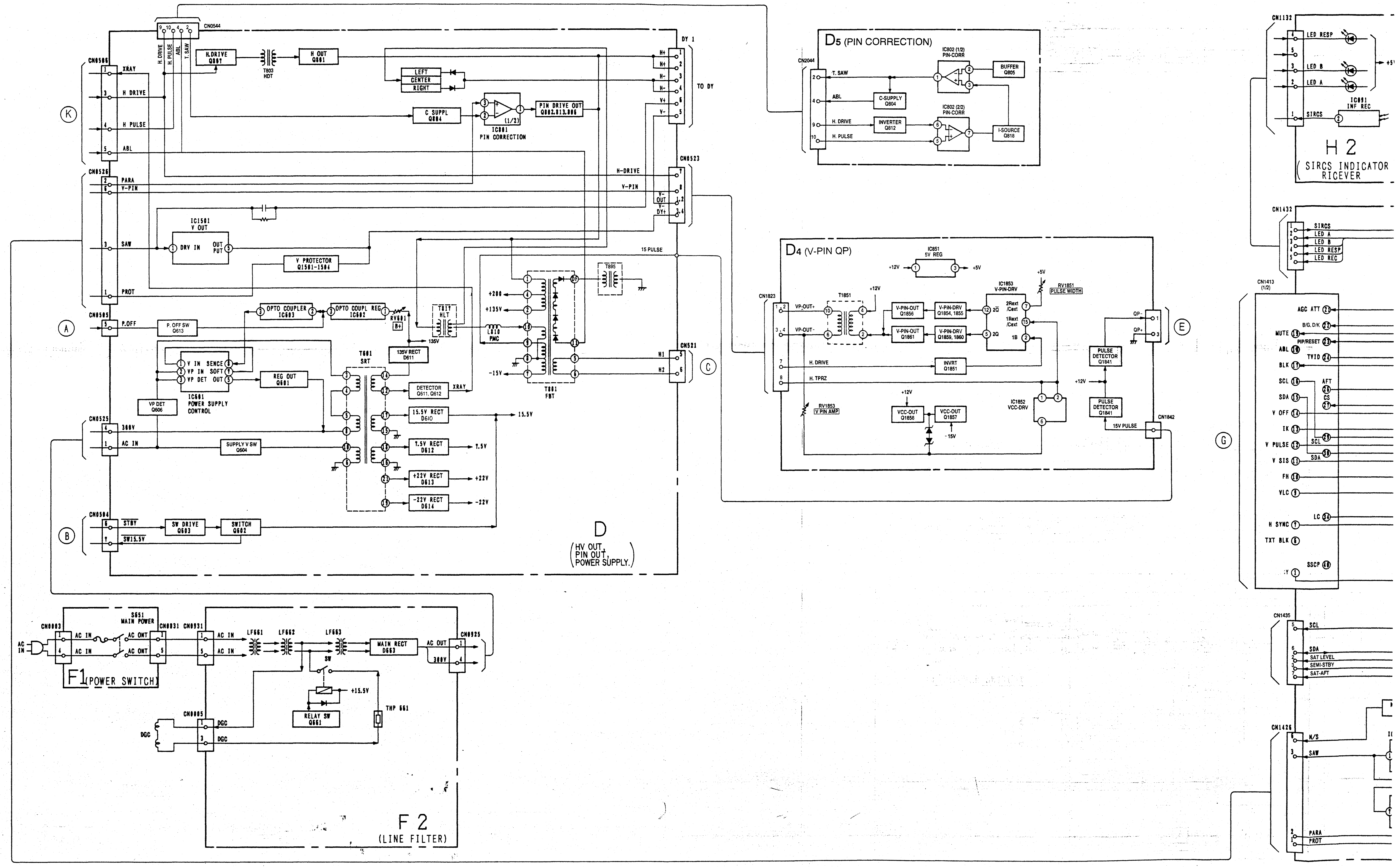
For all ICs in AE-2A chassis which are necessary to get picture and sound there is a built in error I²C Bus diagnosis system.

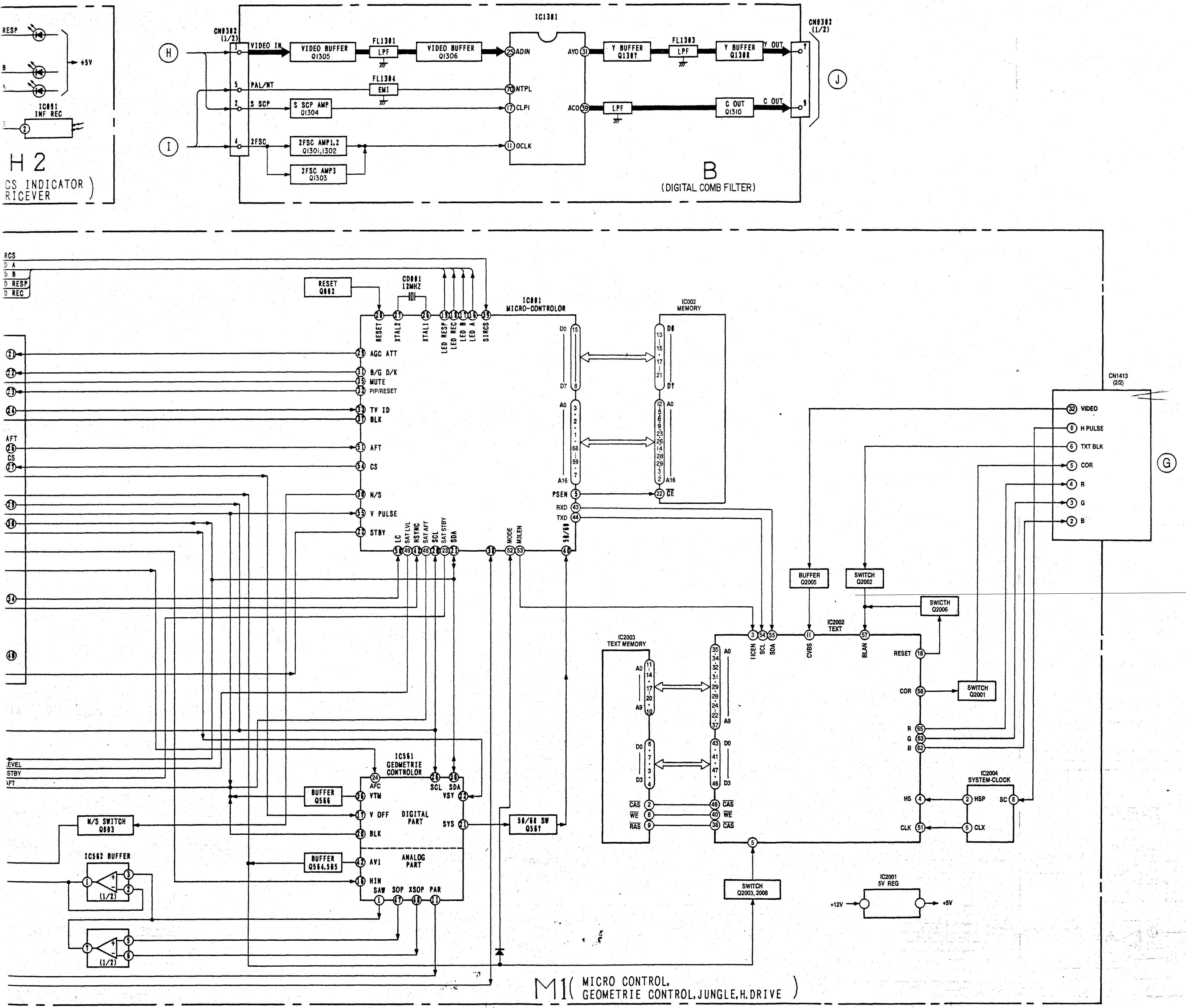
In case of no acknowledge bit, LED A and LED B starts blinking as shown.



SECTION 5
DIAGRAMS

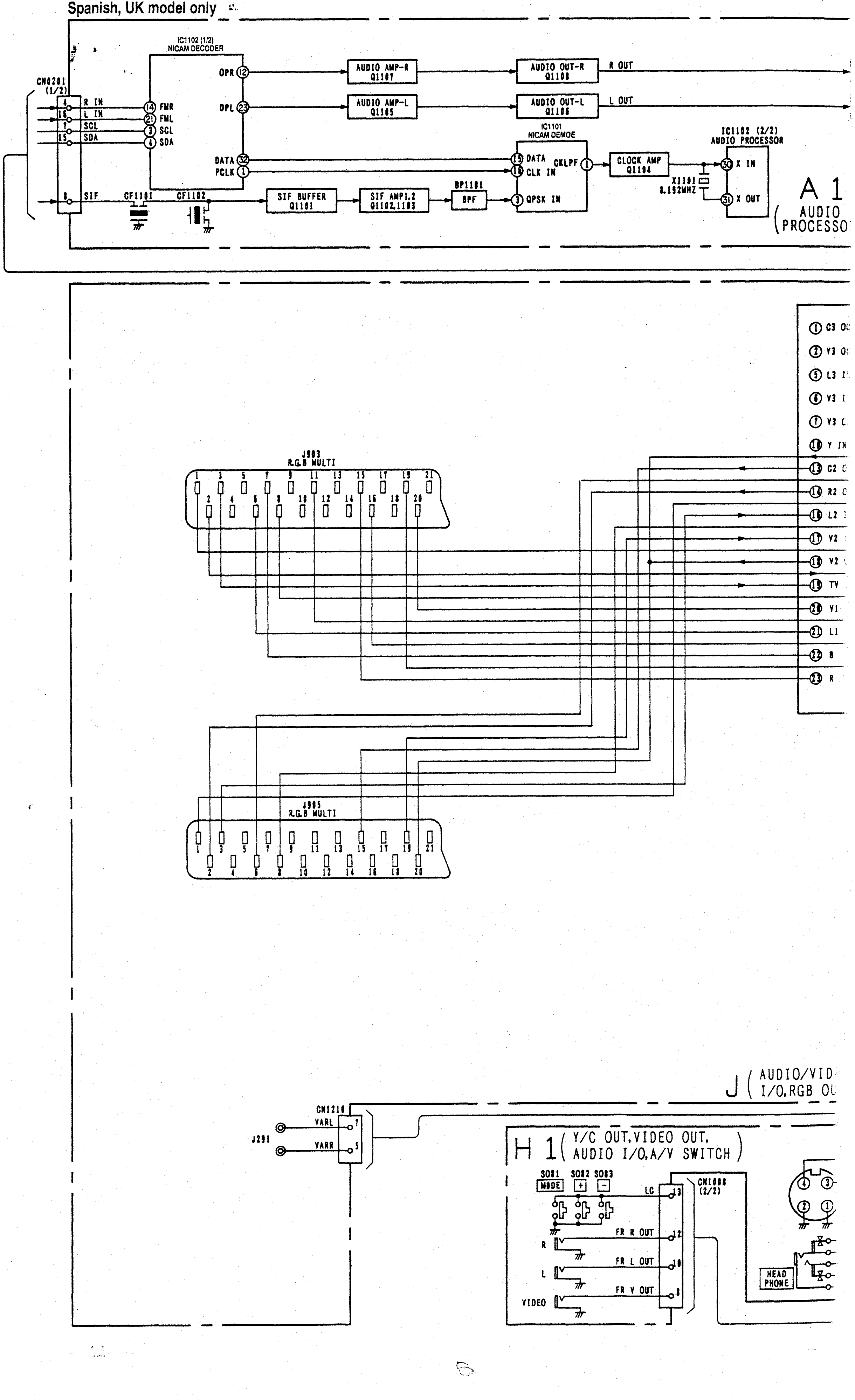
5-1. BLOCK DIAGRAM (1)

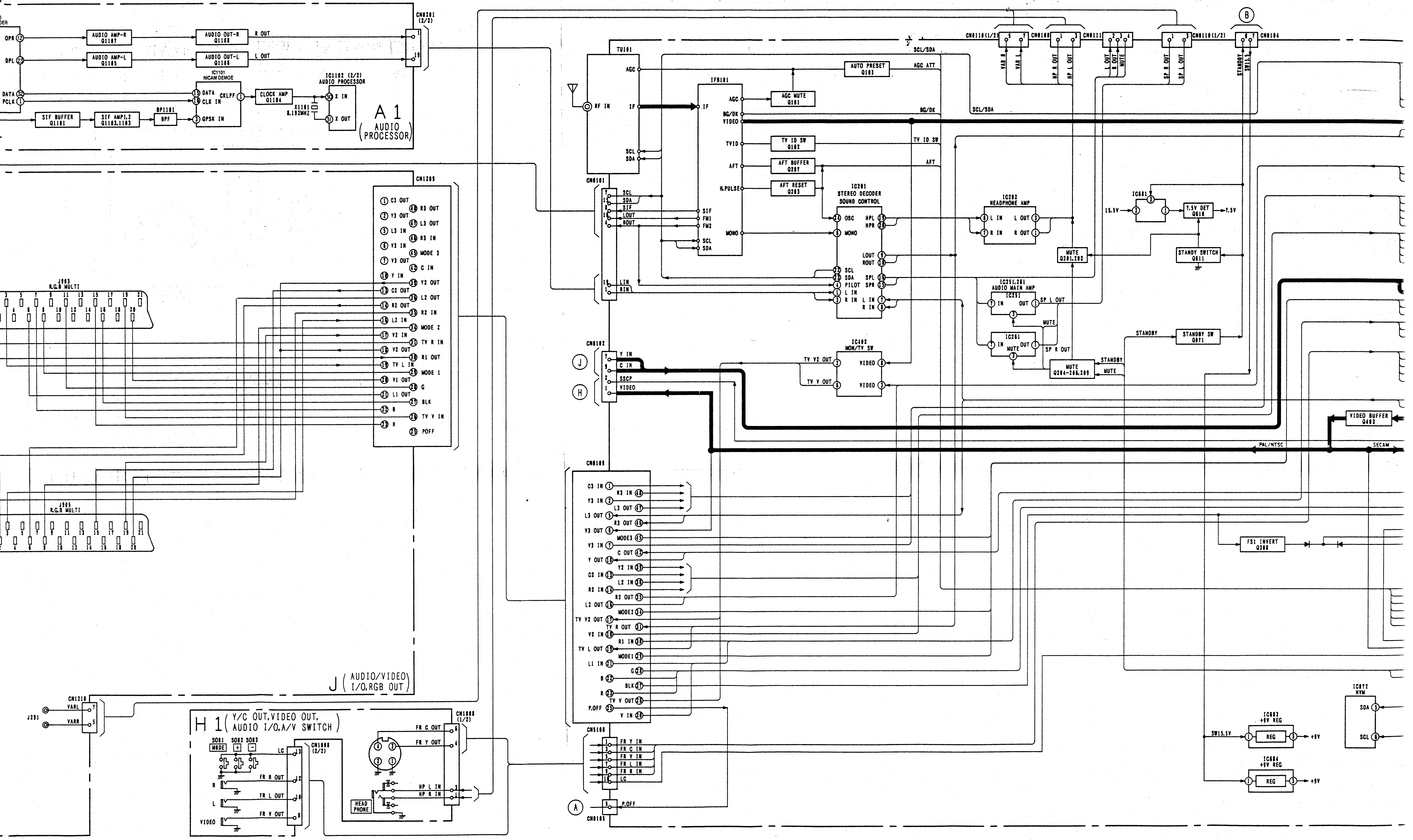

CN0544
H. DRIVE
H. PULSE
ABL
T. SAW
H. DRIVE Q807
T803 HDT
H OUT Q801
LEFT
CENTER
RIGHT
C SUPPL Q804
IC801 PIN CORRECTION
PIN DRIVE OUT Q802,813,806
DY 1
TO DY
H+
H-
V+
V-
CN0506
XRAY
H DRIVE
H PULSE
ABL
K
CN0526
PARA
V-PIN
SAW
PROT
CN0523
H-DRIVE
V-PIN
V-OUT
V-DY+
IC1501 V OUT
DRV IN
OUT PUT
V PROTECTOR Q1501-1504
15 PULSE
CN0505
P.OFF
P. OFF SW Q613
A
OPTO COUPLER IC603
OPTO COUPL REG IC602
RV601
B+
T817 HLT
L810 PMC
135V
T895
+200
+135V
-15V
T801 FBT
CN0521
H1
H2
C
135V RECT D611
T601 SRT
V IN SENCE
VP IN SOFT
VP DET OUT
IC601 POWER SUPPLY CONTROL
VP DET Q606
REG OUT Q601
DETECTOR Q611, Q612
XRAY
15.5V RECT D610
15.5V
7.5V RECT D612
7.5V
+22V RECT D613
+22V
-22V RECT D614
-22V
CN0525
300V
AC IN
SUPPLY V SW Q604
CN0504
STBY
SW15.5V
SW DRIVE Q603
SWITCH Q602
B
D
(HV OUT, PIN OUT, POWER SUPPLY.)
CN0003
AC IN
S651 MAIN POWER
AC ONT
CN0031
CN0931
LF661
LF662
LF663
MAIN RECT D663
AC OUT
300V
CN0925
SW
+15.5V
RELAY SW Q661
THP 661
CN0005
DGC
F1 (POWER SWITCH)
F 2 (LINE FILTER)
D5 (PIN CORRECTION)
CN2044
T. SAW
ABL
H. DRIVE
H. PULSE
IC802 (1/2) PIN-CORR
BUFFER Q805
C-SUPPLY Q804
IC802 (2/2) PIN-CORR
INVERTER Q812
I-SOURCE Q818
D4 (V-PIN QP)
IC851 5V REG
+12V
+5V
CN1823
VP-OUT+
VP-OUT-
T1851
V-PIN-OUT Q1856
V-PIN-DRV Q1854, 1855
V-PIN-OUT Q1861
V-PIN-DRV Q1859, 1860
IC1853 V-PIN-DRV
2Rext /Cext
1Rext /Cext
RV1851 PULSE WIDTH
H. DRIVE
H. TPRZ
INVRT Q1851
RV1853 V PIN AMP
VCC-OUT Q1858
VCC-OUT Q1857
-15V
IC1852 VCC-DRV
PULSE DETECTOR Q1841
QP-
QP+
E
CN1842
15V PULSE
CN1132
LED RESP
LED B
LED A
IC091 INF REC
SIRCS
H 2
(SIRCS INDICATOR RICEVER
CN1432
SIRCS
LED A
LED B
LED RESP
LED REC
CN1413 (1/2)
AGC ATT
B/G. D/K
MUTE
PIP/RESET
ABL
TVID
BLK
SCL
AFT
SDA
CS
V OFF
IK
V PULSE
V SIS
FH
VLC
LC
H SYNC
TXT BLK
SSCP
G
CN1435
SCL
SDA
SAT LEVEL
SEMI-STBY
SAT-AFT
CN1426
N/S
SAW
PARA
PROT

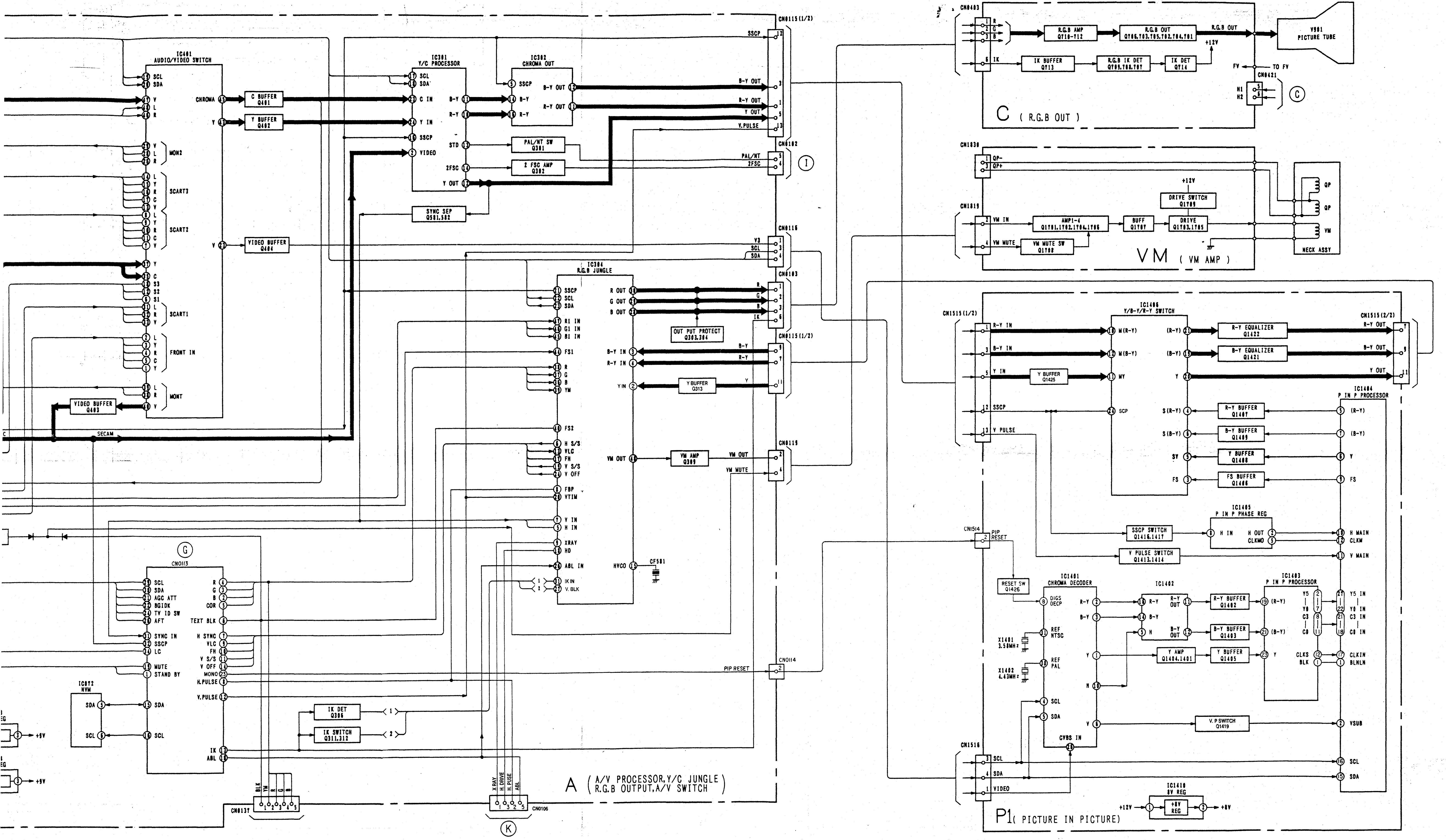

RESP
B
+5V
IC001
INF REC
H 2
CS INDICATOR
RICEVER
H
I
CN0302 (1/2)
VIDEO IN
PAL/NT
S SCP
2FSC
VIDEO BUFFER Q1305
FL1301 LPF
VIDEO BUFFER Q1306
FL1304 EMI
S SCP AMP Q1304
2FSC AMP1,2 Q1301,1302
2FSC AMP3 Q1303
IC1301
ADIN
NTPL
CLPI
OCLK
AYO
ACO
Y BUFFER Q1307
FL1303 LPF
Y BUFFER Q1308
Y OUT
LPF
C OUT Q1310
C OUT
CN0302 (1/2)
J
B
(DIGITAL COMB FILTER)
RCS
D A
D B
D RESP
D REC
RESET Q002
CD001 12MHZ
IC001 MICRO-CONTROLOR
RESET
XTAL2
XTAL1
LED RESP
LED REC
LED B
LED A
SIRCS
AGC ATT
B/G D/K
MUTE
PIP/RESET
TV ID
BLK
AFT
CS
N/S
V PULSE
STBY
LC
SAT LVL
HSYNC
SAT AFT
SCL
SAT STBY
SDA
MODE
M3LEN
50/60
D0
D7
A0
A16
PSEN
RXD
TXD
IC002 MEMORY
D0
D7
A0
A16
CE
LEVEL
STBY
AFT
IC561 GEDMETRIE CONTROLOR
AFC
VTM
V OFF
BLK
DIGITAL PART
ANALOG PART
AVI
HIN
SAW
SOP
XSOP
PAR
SCL
SDA
VSY
SYS
BUFFER Q566
BUFFER Q564,565
N/S SWITCH Q003
IC562 BUFFER
(1/2)
50/60 SW Q567
CN1413 (2/2)
VIDEO
H PULSE
TXT BLK
COR
R
G
B
G
BUFFER Q2005
SWITCH Q2002
SWICTH Q2006
IC2002 TEXT
ICEN
SCL
SDA
CVBS
BLAN
RESET
COR
SWITCH Q2001
R
G
B
HS
CLK
IC2003 TEXT MEMORY
A0
A9
D0
D3
CAS
WE
RAS
IC2004 SYSTEM-CLOCK
HSP
SC
CLX
SWITCH Q2003, 2008
IC2001 5V REG
+12V
+5V
M1 (MICRO CONTROL, GEOMETRIE CONTROL, JUNGLE, H. DRIVE)

BLOCK DIAGRAM (2)

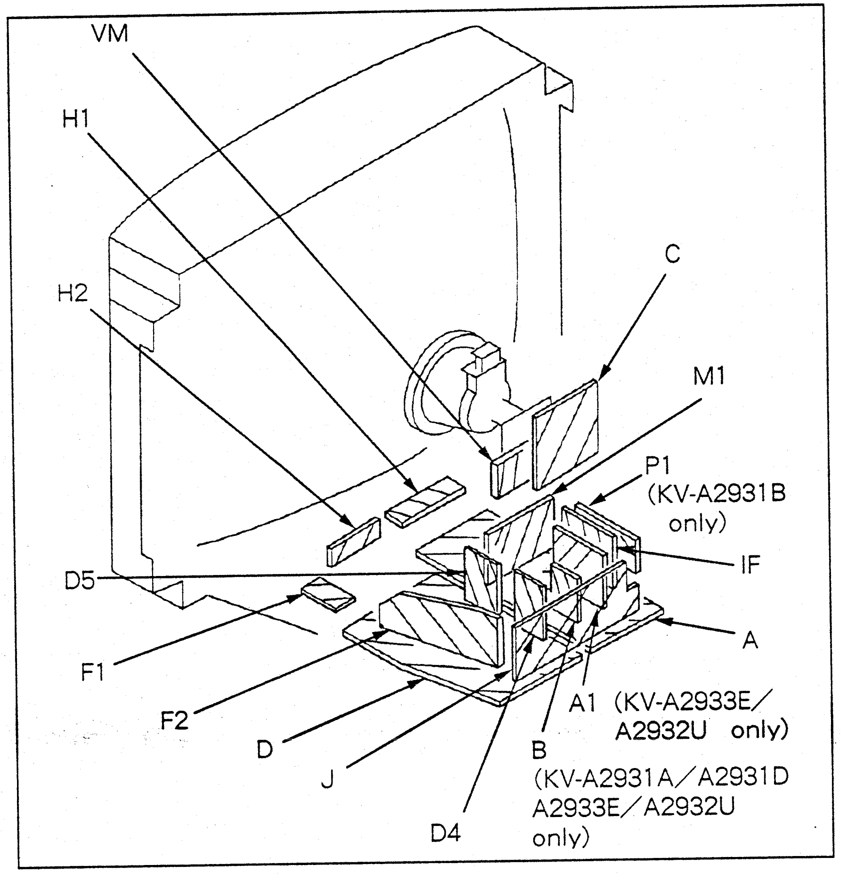
Spanish, UK model only


CN0201 (1/2)
R IN
L IN
SCL
SDA
SIF
IC1102 (1/2) NICAM DECODER
FMR
FML
SCL
SDA
OPR
OPL
DATA
PCLK
AUDIO AMP-R Q1107
AUDIO AMP-L Q1105
AUDIO OUT-R Q1108
AUDIO OUT-L Q1106
R OUT
L OUT
IC1101 NICAM DEMOE
DATA
CLK IN
CKLPF
QPSK IN
CLOCK AMP Q1104
IC1102 (2/2) AUDIO PROCESSOR
X IN
X OUT
X1101 8.192MHZ
CF1101
CF1102
SIF BUFFER Q1101
SIF AMP1,2 Q1102,1103
BP1101
BPF
A 1 (AUDIO PROCESSO
J903 R.G.B MULTI
J905 R.G.B MULTI
C3 OU
Y3 OU
L3 I
V3 I
V3 C
Y IN
C2 C
R2 C
L2 I
V2
V2
TV
V1
L1
B
R
J (AUDIO/VID I/O,RGB OU
CN1210
VARL
VARR
J291
H 1 (Y/C OUT,VIDEO OUT, AUDIO I/O,A/V SWITCH)
S001 MODE
S002 +
S003 -
LC
FR R OUT
FR L OUT
FR V OUT
R
L
VIDEO
CN1000 (2/2)
HEAD PHONE


A 1 (AUDIO PROCESSOR)
OPR 12
DPL 23
DATA 32
PCLK 1
AUDIO AMP-R Q1107
AUDIO AMP-L Q1105
AUDIO OUT-R Q1108
AUDIO OUT-L Q1106
R OUT
L OUT
CN0201 (2/2)
IC1101 NICAM DEMOE
DATA
CLK IN
QPSK IN
CKLPF
CLOCK AMP Q1104
IC1102 (2/2) AUDIO PROCESSOR
X IN
X OUT
X1101 8.192MHZ
SIF BUFFER Q1101
SIF AMP1,2 Q1102,1103
BP1101 BPF
CN1209
C3 OUT
Y3 OUT
L3 IN
Y3 IN
V3 OUT
Y IN
C2 OUT
R2 OUT
L2 IN
Y2 IN
V2 OUT
TV L IN
V1 OUT
L1 OUT
B
R
R3 OUT
L3 OUT
R3 IN
MODE 3
C IN
Y2 OUT
L2 OUT
R2 IN
MODE 2
TV R IN
R1 OUT
MODE 1
G
BLK
TV V IN
POFF
J903 R.G.B MULTI
J905 R.G.B MULTI
J (AUDIO/VIDEO I/O,RGB OUT)
CN1210
VARL
VARR
J291
H 1 (Y/C OUT,VIDEO OUT, AUDIO I/O,A/V SWITCH)
S001 MODE
S002 +
S003 −
LC
FR R OUT
FR L OUT
FR V OUT
R
L
VIDEO
CN1008 (2/2)
CN1008 (1/2)
FR C OUT
FR Y OUT
HP L IN
HP R IN
HEAD PHONE
TU101
AGC
RF IN
IF
SCL
SDA
CN0101
SIF
LOUT
ROUT
LIN
RIN
IFB101
BG/DK
VIDEO
TVID
AFT
H.PULSE
FM1
FM2
MONO
AGC MUTE Q101
AUTO PRESET Q103
AGC ATT
SCL/SDA
TV ID SW Q102
TV ID SW
AFT BUFFER Q207
AFT RESET Q203
IC201 STEREO DECODER SOUND CONTROL
OSC
HPL
HPR
LOUT
ROUT
PILOT
SPL
SPR
L IN
R IN
IC202 HEADPHONE AMP
L IN
R IN
L OUT
R OUT
MUTE Q201,202
IC251,261 AUDIO MAIN AMP
IC251
IC261
IN
OUT
SP L OUT
SP R OUT
MUTE
MUTE Q204-206,209
STANDBY
STANDBY SW Q071
IC601
15.5V
7.5V DET Q610
7.5V
STANDY SWITCH Q611
CN0110 (1/2)
VAR R
VAR L
CN0108
HP R OUT
HP L OUT
CN0111
L OUT
R OUT
SP R OUT
SP L OUT
B
CN0104
STANDBY
SW15.5
CN0102
Y IN
C IN
SSCP
J
H
IC402 MON/TV SW
TV V2 OUT
TV V OUT
VIDEO BUFFER Q403
PAL/NTSC
SECAM
CN0109
C3 IN
Y3 IN
L3 OUT
V3 OUT
V3 IN
Y OUT
C2 IN
R2 IN
L2 OUT
TV V2 OUT
V2 IN
TV L OUT
L1 IN
B
R
P.OFF
R3 IN
L3 OUT
R3 OUT
MODE3
C OUT
Y2 IN
L2 IN
R2 OUT
MODE2
TY R OUT
R1 IN
MODE1
G
BLK
TV V OUT
V IN
CN5100
FR Y IN
FR C IN
FR V IN
FR L IN
FR R IN
LC
A
CN0105
P.OFF
FS1 INVERT Q308
IC872 NVM
SDA
SCL
IC603 +9V REG
IC604 +9V REG
SW15.5V
REG
+9V


IC401 AUDIO/VIDEO SWITCH
C BUFFER Q401
Y BUFFER Q402
VIDEO BUFFER Q404
VIDEO BUFFER Q403
MON2
SCART3
SCART2
SCART1
FRONT IN
MONT
SECAM
IC301 Y/C PROCESSOR
IC302 CHROMA OUT
PAL/NT SW Q301
2 FSC AMP Q302
SYNC SEP Q501,502
IC304 R.G.B JUNGLE
OUT PUT PROTECT Q303,304
Y BUFFER Q313
VM AMP Q309
CF501
CN0113
IC072 NVM
IK DET Q306
IK SWITCH Q311,312
CN0115(1/2)
CN0102
CN0116
CN0103
CN0115
CN0114
PIP RESET
CN0137
CN0106
A (A/V PROCESSOR,Y/C JUNGLE R.G.B OUTPUT,A/V SWITCH)
G
I
K
CN0403
R.G.B AMP Q710-712
R.G.B OUT Q706,703,705,702,704,701
IK BUFFER Q713
R.G.B IK DET Q705,708,707
IK DET Q714
V901 PICTURE TUBE
TO FV
CN0421
C (R.G.B OUT)
CN1030
CN1019
AMP1-4 Q1701,1702,1704,1706
BUFF Q1707
DRIVE SWITCH Q1709
DRIVE Q1703,1705
VM MUTE SW Q1702
NECK ASSY
VM (VM AMP)
CN1515(1/2)
CN1515(2/2)
IC1406 Y/B-Y/R-Y SWITCH
R-Y EQUALIZER Q1422
B-Y EQUALIZER Q1421
Y BUFFER Q1425
IC1404 P IN P PROCESSOR
R-Y BUFFER Q1407
B-Y BUFFER Q1409
Y BUFFER Q1408
FS BUFFER Q1406
IC1405 P IN P PHASE REG
SSCP SWITCH Q1416,1417
V PULSE SWITCH Q1413,1414
CN1514
RESET SW Q1426
IC1401 CHROMA DECODER
IC1402
R-Y BUFFER Q1402
B-Y BUFFER Q1403
Y AMP Q1404,1401
Y BUFFER Q1405
IC1403 P IN P PROCESSOR
X1401 3.58MHz
X1402 4.43MHz
V.P SWITCH Q1419
CN1516
IC1410 8V REG
P1 (PICTURE IN PICTURE)

5-2. CIRCUIT BOARDS LOCATION


VM
H1
H2
C
M1
P1
(KV-A2931B only)
IF
D5
A
F1
F2
A1 (KV-A2933E/A2932U only)
D
J
B
(KV-A2931A/A2931D A2933E/A2932U only)
D4

Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFLAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés par une trame et par une marque ⚠ sont d'une importance critique pour la sécurité. Ne les remplacer que par des pièces de numéro spécifié.

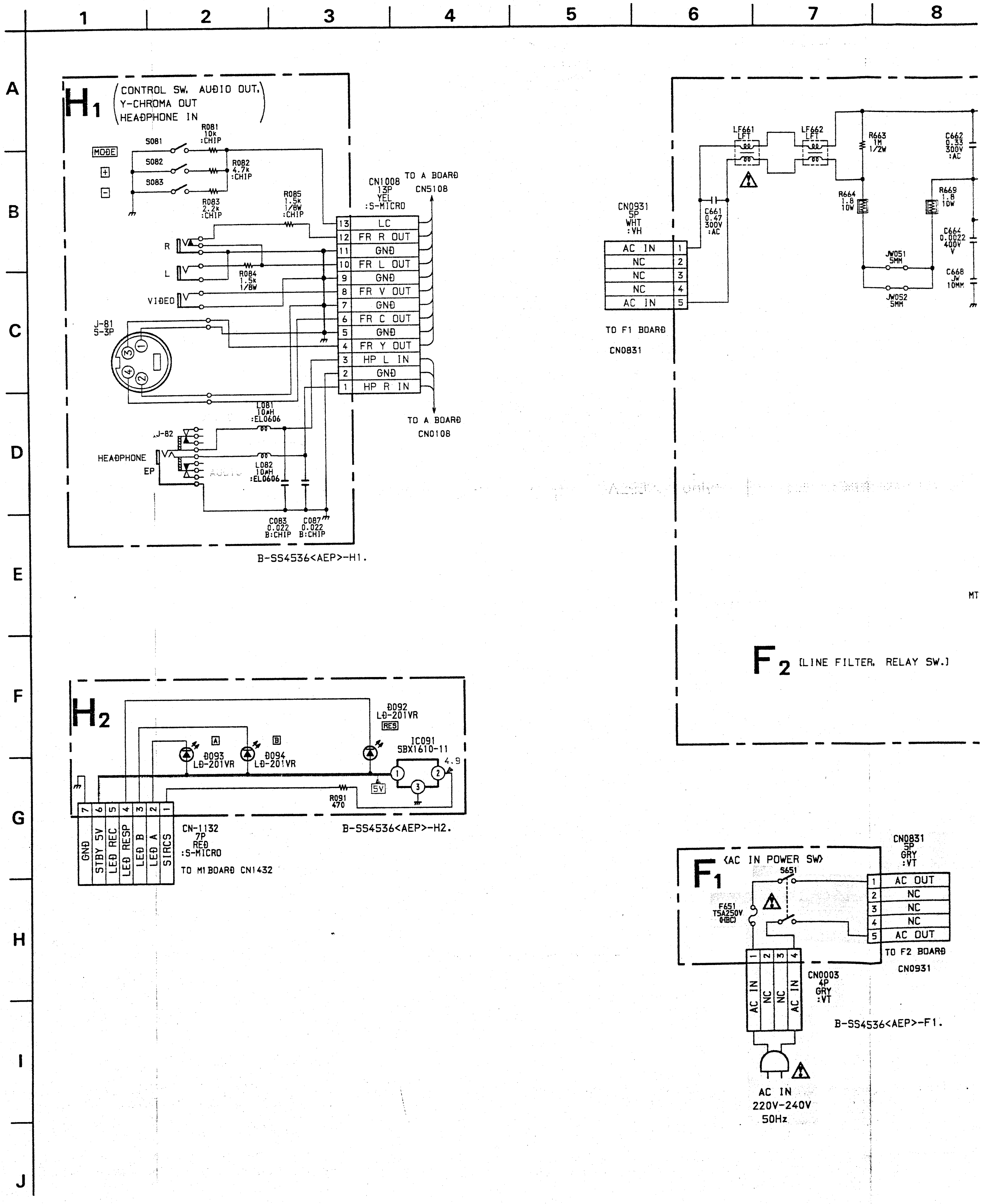
5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

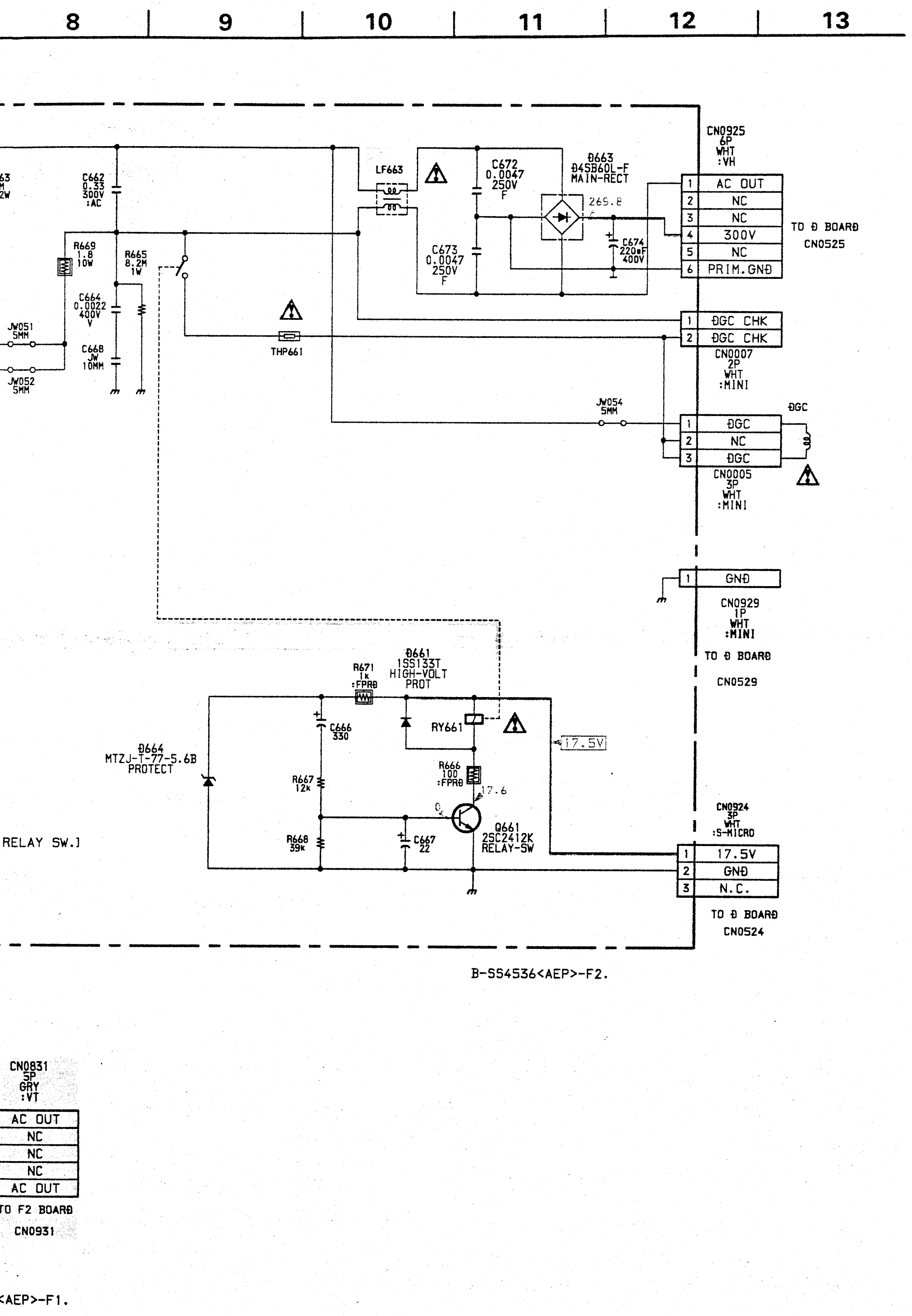
Note :

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytic.
- Indication of resistance, which dose not have one for rating electrical power, is as follows.

Pitch : 5mm Rating electrical power : ¼W

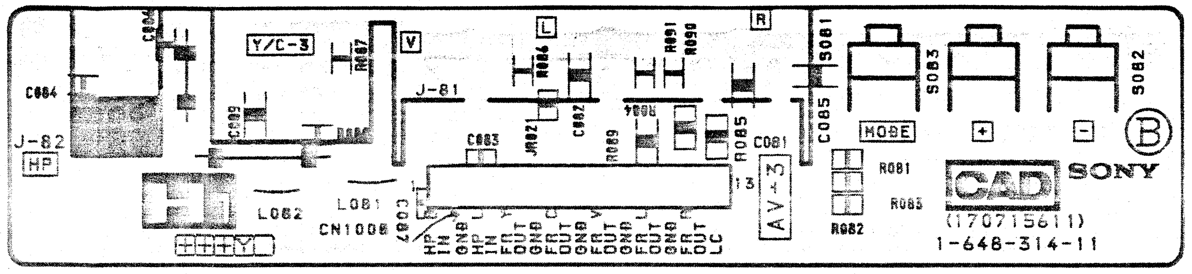
- Chip resistor is in 1/10W.
- All resistors are in ohms. kΩ = 1000Ω, MΩ = 1000KΩ
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- ☐ : panel designation or adjustment for repair.
- All variable and adjustable resistors have charactristic curve B, unless otherwise noted.
- All voltages are in V.
- Readings are taken with a 10MΩ digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ▬ : B+ bus.
- ▬ ▬ : B− bus.
- ▨ : signal path.(RF)
- ⊥ : earth - ground
- ⏚ : earth - chassis


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
H1
CONTROL SW, AUDIO OUT, Y-CHROMA OUT HEADPHONE IN
MODE
S081
S082
S083
R081 10k :CHIP
R082 4.7k :CHIP
R083 2.2k :CHIP
R084 1.5k 1/8W
R085 1.5k 1/8W :CHIP
CN1008 13P YEL :S-MICRO
TO A BOARD CN5108
LC
FR R OUT
GND
FR L OUT
FR V OUT
FR C OUT
FR Y OUT
HP L IN
HP R IN
R
L
VIDEO
J-81 S-3P
J-82
HEADPHONE
EP
L081 10μH :EL0606
L082 10μH :EL0606
C083 0.022 B:CHIP
C087 0.022 B:CHIP
TO A BOARD CN0108
B-SS4536<AEP>-H1.
H2
D092 LD-201VR
RES
IC091 SBX1610-11
D093 LD-201VR
D094 LD-201VR
R091 470
5V
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
CN-1132 7P RED :S-MICRO
TO M1 BOARD CN1432
B-SS4536<AEP>-H2.
CN0931 5P WHT :VH
AC IN
NC
TO F1 BOARD CN0831
LF661
LF662
R663 1M 1/2W
R664 1.8 10W
R669 1.8 10W
C661 0.47 300V :AC
C662 0.33 300V :AC
C664 0.0022 400V
C668 10MM
JW051 5MM
JW052 5MM
F2 [LINE FILTER, RELAY SW.]
F1 <AC IN POWER SW>
S651
F651 T5A250V
CN0831 5P GRY :VT
AC OUT
TO F2 BOARD CN0931
CN0003 4P GRY :VT
B-SS4536<AEP>-F1.
AC IN 220V-240V 50Hz

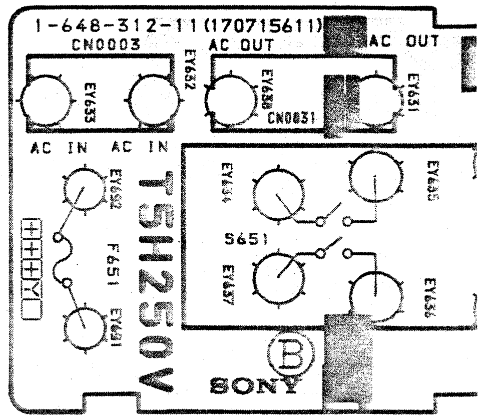

8
9
10
11
12
13
C662 0.33 300V :AC
R669 1.8 10W
R665 8.2M 1W
C664 0.0022 400V V
C668 JW 10MM
JW051 5MM
JW052 5MM
LF663
C672 0.0047 250V F
C673 0.0047 250V F
D663 D4SB60L-F MAIN-RECT
265.8
C674 220μF 400V
THP661
CN0925 6P WHT :VH
AC OUT
NC
NC
300V
NC
PRIM.GND
TO D BOARD CN0525
DGC CHK
DGC CHK
CN0007 2P WHT :MINI
JW054 5MM
DGC
NC
DGC
CN0005 3P WHT :MINI
DGC
GND
CN0929 1P WHT :MINI
TO D BOARD CN0529
R671 1k :FPRB
D661 1SS133T HIGH-VOLT PROT
C666 330
RY661
17.5V
D664 MTZJ-T-77-5.6B PROTECT
R666 100 :FPRB
R667 12k
17.6
R668 39k
C667 22
Q661 2SC2412K RELAY-SW
CN0924 3P WHT :S-MICRO
17.5V
GND
N.C.
TO D BOARD CN0524
RELAY SW.]
B-SS4536<AEP>-F2.
CN0831 5P GRY :VT
AC OUT
NC
NC
NC
AC OUT
TO F2 BOARD CN0931
<AEP>-F1.

H1 [CONTROL SW, AUDIO OUT Y-CHROMA OUT, HEADPHONE] H2 [SIRCS RECEIVE INDICATOR] F2 [LINE FILTER, RELAY SW] F1 [AC IN POWER SW]

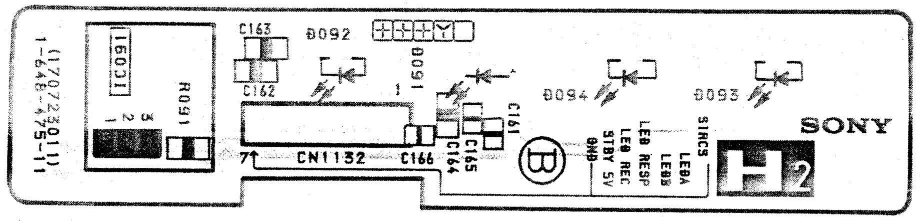
- H1 BOARD -


C084
J-82
HP
Y/C-3
V
L
R
J-81
C083
C082
C081
C085
R085
S081
S083
S082
MODE
+
−
R081
R083
R082
L082
L081
CN1008
AV-3
CAD
SONY
(170715611)
1-648-314-11

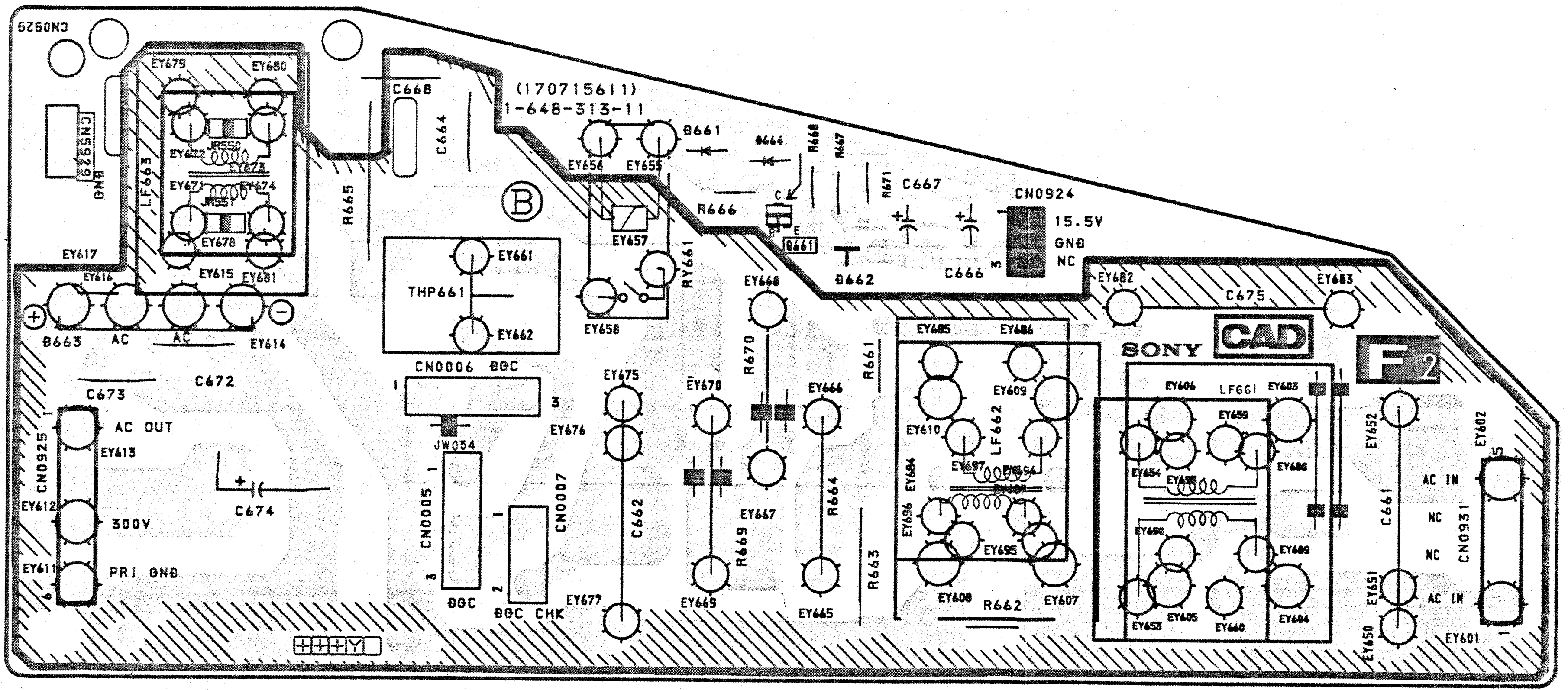
- F1 BOARD -


1-648-312-11(170715611)
CN0003
AC OUT
AC OUT
CN0831
AC IN
AC IN
EY635
EY652
EY634
EY635
S651
F651
EY637
EY636
T5H250V
SONY

- H2 BOARD -


(170723011)
1-648-475-11
C163
D092
C162
R091
D094
D093
D091
C161
CN1132
C166
C164
C165
SIRCS
LED REC
LED RESP
STBY 5V
GND
LEDA
LEDB
SONY
H2

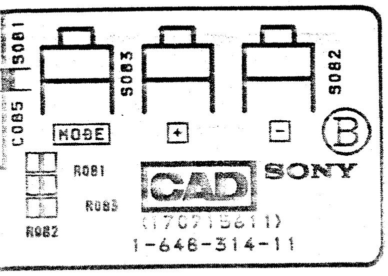
- F2 BOARD -


CN0929
CN0929
EY679
EY680
LF663
EY617
EY616
EY615
EY681
D663
AC
AC
EY614
C668
C664
(170715611)
1-648-313-11
R665
D661
D664
R668
R667
R671
C667
EY656
EY655
EY657
R666
Q661
D662
CN0924
15.5V
GND
NC
C666
EY661
THP661
EY662
RY661
EY658
EY668
EY682
C675
EY683
SONY
CAD
F2
C673
C672
AC OUT
EY613
CN0925
EY612
300V
EY611
PRI GND
C674
CN0006 DGC
JW054
CN0005
DGC
CN0007
DGC CHK
EY676
EY675
EY677
C662
EY670
R670
R669
EY669
EY667
EY666
R664
EY665
R661
R663
EY685
EY686
EY609
EY610
LF662
EY684
EY696
EY695
EY608
R662
EY607
EY604
LF661
EY603
EY606
EY654
EY605
EY660
EY653
EY652
C661
EY602
CN0931
AC IN
NC
NC
AC IN
EY651
EY650
EY601

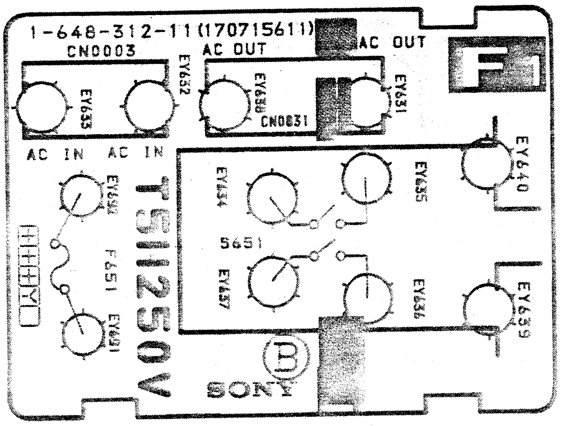
Schematic diagrams

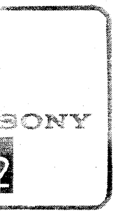
← F1 F2 H1 H2 boards

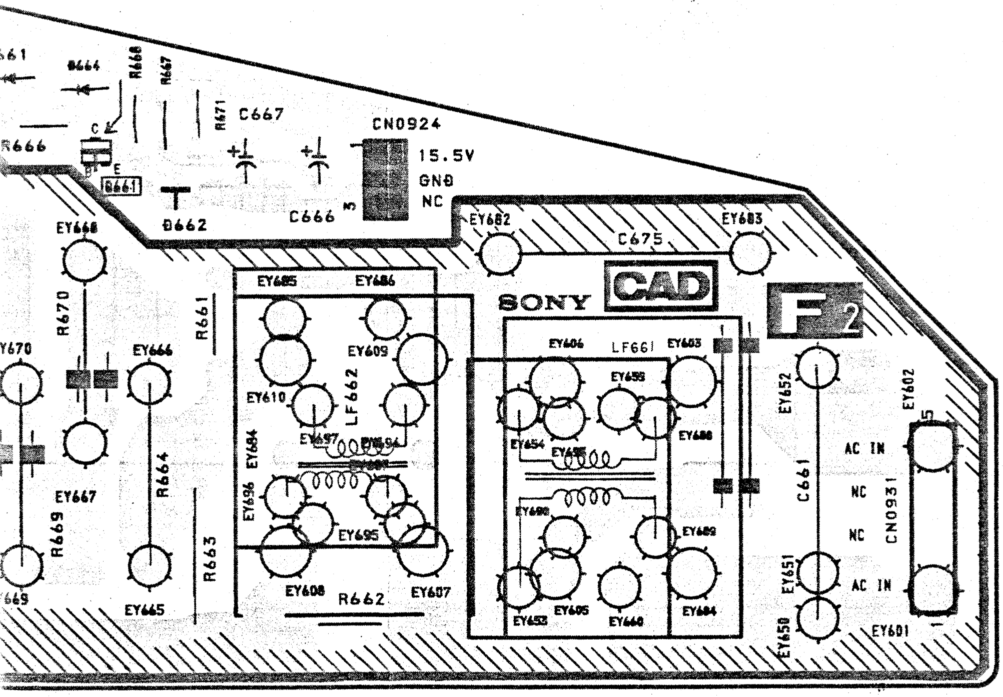
VE] **F2** [LINE FILTER, RELAY SW] **F1** [AC IN POWER SW]


S081
S083
S082
C085
MODE
+
−
B
R081
R083
R082
CAD
SONY
(170715611)
1-648-314-11

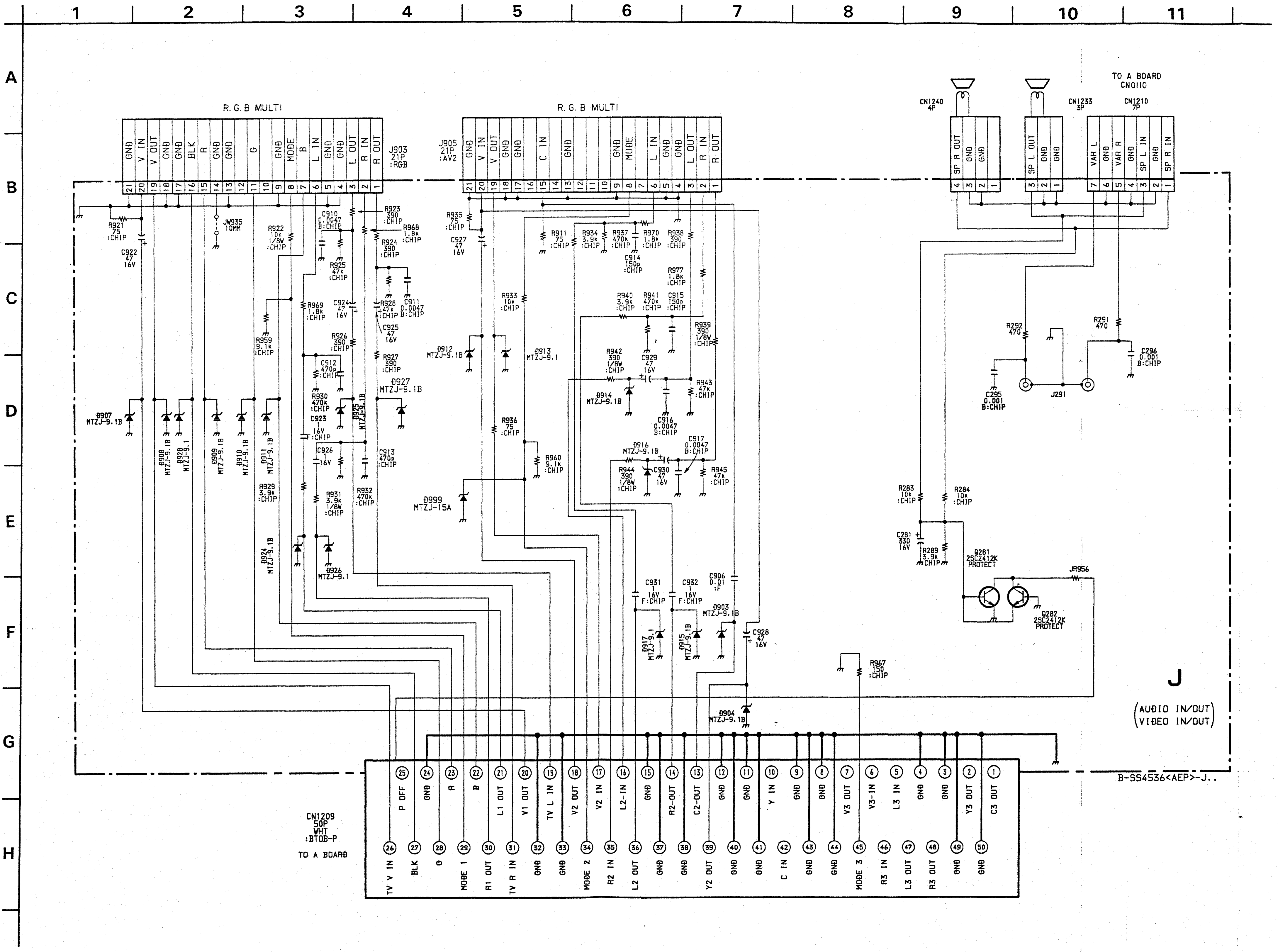
– F1 BOARD –


1-648-312-11(170715611)
CN0003
AC OUT
AC OUT
F1
EY632
EY633
EY638
CN0831
EY631
AC IN
AC IN
EY640
EY658
T5II250V
F651
EY601
EY634
EY635
S651
EY637
EY636
EY639
B
SONY

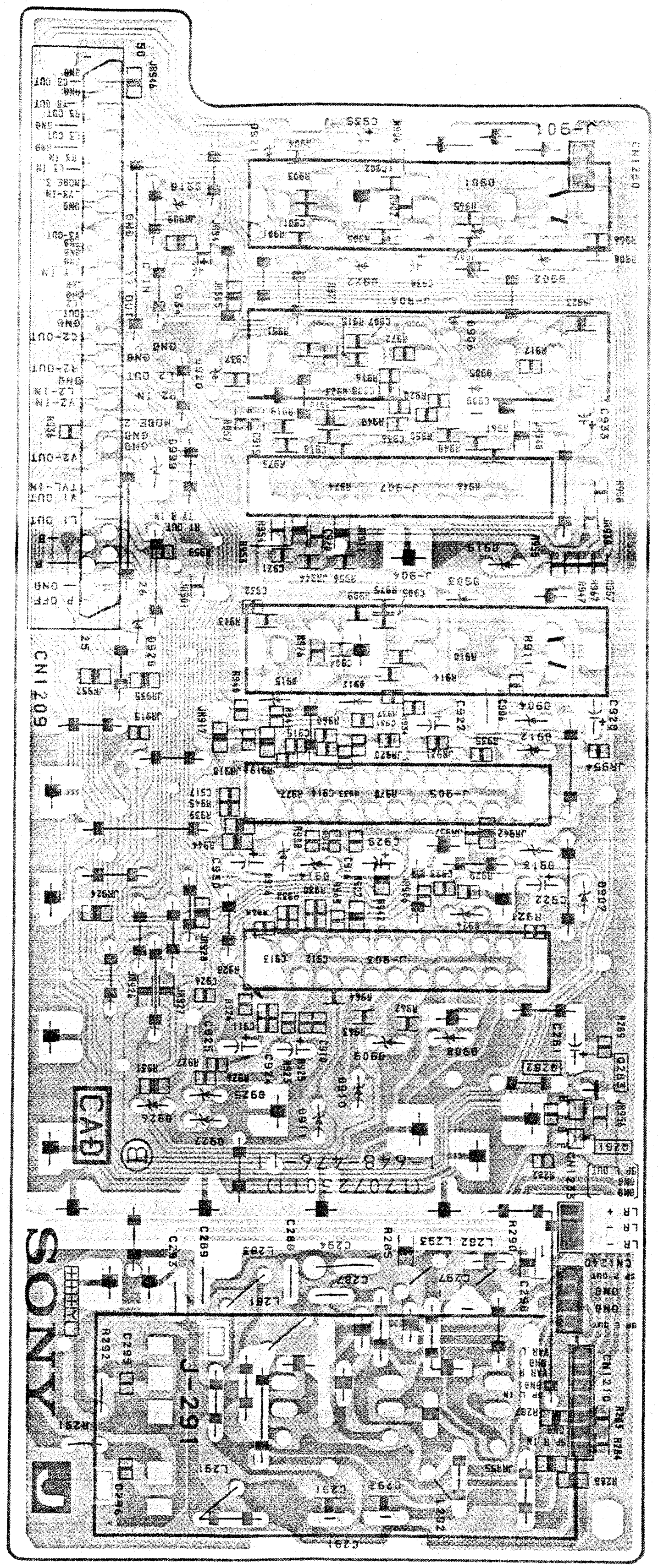



R666
D664
R668
R667
R671
C667
CN0924
15.5V
GND
NC
D661
D662
C666
EY668
EY682
C675
EY683
EY685
EY686
SONY
CAD
F2
R670
R661
EY670
EY666
EY609
EY604
LF661
EY603
EY659
EY652
EY602
EY610
LF662
EY684
EY697
EY694
EY654
EY655
EY688
AC IN
R664
EY696
C661
NC
EY667
EY699
CN0931
R669
EY695
EY689
NC
R663
EY651
AC IN
EY669
EY665
EY608
R662
EY607
EY653
EY605
EY660
EY604
EY650
EY601

J [AUDIO IN/OUT
VIDEO IN/OUT] **A** [TUNER, AUDIO, CONTROL, AUDIO
AV SW, R.G.B JUNGLE, Y/C PR


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
R.G.B MULTI
J903
21P
:RGB
GND
V IN
V OUT
GND
GND
BLK
R
GND
GND
G
GND
MODE
B
L IN
GND
GND
L OUT
R IN
R OUT
R.G.B MULTI
J905
21P
:AV2
C IN
MODE
CN1240
4P
SP R OUT
CN1233
3P
SP L OUT
TO A BOARD
CN0110
CN1210
7P
VAR L
VAR R
SP L IN
SP R IN
R921
75
:CHIP
C922
47
16V
JW935
10MM
R922
10k
1/8W
:CHIP
C910
0.0047
B:CHIP
R923
390
:CHIP
R968
1.8k
:CHIP
R924
390
:CHIP
R925
47k
:CHIP
R935
75
:CHIP
C927
47
16V
R911
75
:CHIP
R934
3.9k
:CHIP
R937
470k
:CHIP
R970
1.8k
:CHIP
R938
390
:CHIP
C914
150p
:CHIP
R977
1.8k
:CHIP
R969
1.8k
:CHIP
C924
47
16V
R928
47k
:CHIP
C911
0.0047
B:CHIP
C925
47
16V
R933
10k
:CHIP
R940
3.9k
:CHIP
R941
470k
:CHIP
C915
150p
:CHIP
R939
390
1/8W
:CHIP
R959
9.1k
:CHIP
R926
390
:CHIP
C912
470p
:CHIP
R927
390
:CHIP
D912
MTZJ-9.1B
D913
MTZJ-9.1
R942
390
1/8W
:CHIP
C929
47
16V
D927
MTZJ-9.1B
R943
47k
:CHIP
D907
MTZJ-9.1B
R930
470k
:CHIP
D925
MTZJ-9.1B
D914
MTZJ-9.1B
C916
0.0047
B:CHIP
C923
16V
:CHIP
C926
16V
R936
75
:CHIP
C917
0.0047
B:CHIP
D916
MTZJ-9.1B
D908
MTZJ-9.1B
D928
MTZJ-9.1
D909
MTZJ-9.1B
D910
MTZJ-9.1B
D911
MTZJ-9.1B
C913
470p
:CHIP
R960
9.1k
:CHIP
R944
390
1/8W
:CHIP
C930
47
16V
R945
47k
:CHIP
R929
3.9k
:CHIP
R931
3.9k
1/8W
:CHIP
R932
470k
:CHIP
D999
MTZJ-15A
D924
MTZJ-9.1B
D926
MTZJ-9.1
C931
1
16V
F:CHIP
C932
1
16V
F:CHIP
C906
0.01
:F
D903
MTZJ-9.1B
D917
MTZJ-9.1
D915
MTZJ-9.1B
C928
47
16V
R967
150
:CHIP
D904
MTZJ-9.1B
R292
470
R291
470
C296
0.001
B:CHIP
C295
0.001
B:CHIP
J291
R283
10k
:CHIP
R284
10k
:CHIP
C281
330
16V
R289
3.9k
:CHIP
Q281
2SC2412K
PROTECT
Q282
2SC2412K
PROTECT
JR956
J
(AUDIO IN/OUT
VIDEO IN/OUT)
B-SS4536<AEP>-J..
CN1209
50P
WHT
:BTOB-P
TO A BOARD
P OFF
GND
R
B
L1 OUT
V1 OUT
TV L IN
V2 OUT
V2 IN
L2-IN
GND
R2-OUT
C2-OUT
GND
GND
Y IN
GND
GND
V3 OUT
V3-IN
L3 IN
GND
GND
Y3 OUT
C3 OUT
TV V IN
BLK
0
MODE 1
R1 OUT
TV R IN
GND
GND
MODE 2
R2 IN
L2 OUT
GND
GND
Y2 OUT
GND
GND
C IN
GND
GND
MODE 3
R3 IN
L3 OUT
R3 OUT
GND
GND

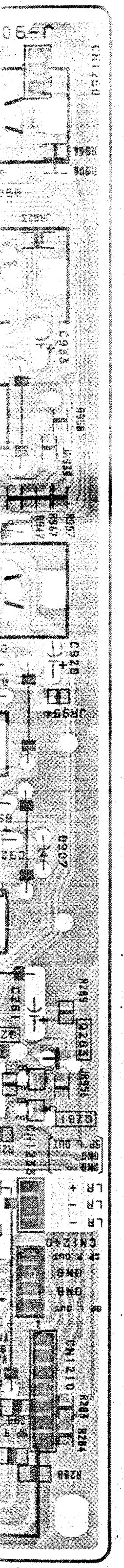
- J BOARD -


CN1209
CN1240
CN1210
CAD
SONY
J-29
J

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

O, CONTROL, AUDIO AMP,
B JUNGLE, Y/C PROCESSOR



IC

IC	
IC072	B - 6
IC201	C - 6
IC202	C - 4
IC251	D - 4
IC261	D - 2
IC301	A - 8
IC302	A - 10
IC304	C - 10
IC401	C - 2
IC402	D - 2
IC681	D - 9
IC684	C - 4
IC685	E - 8

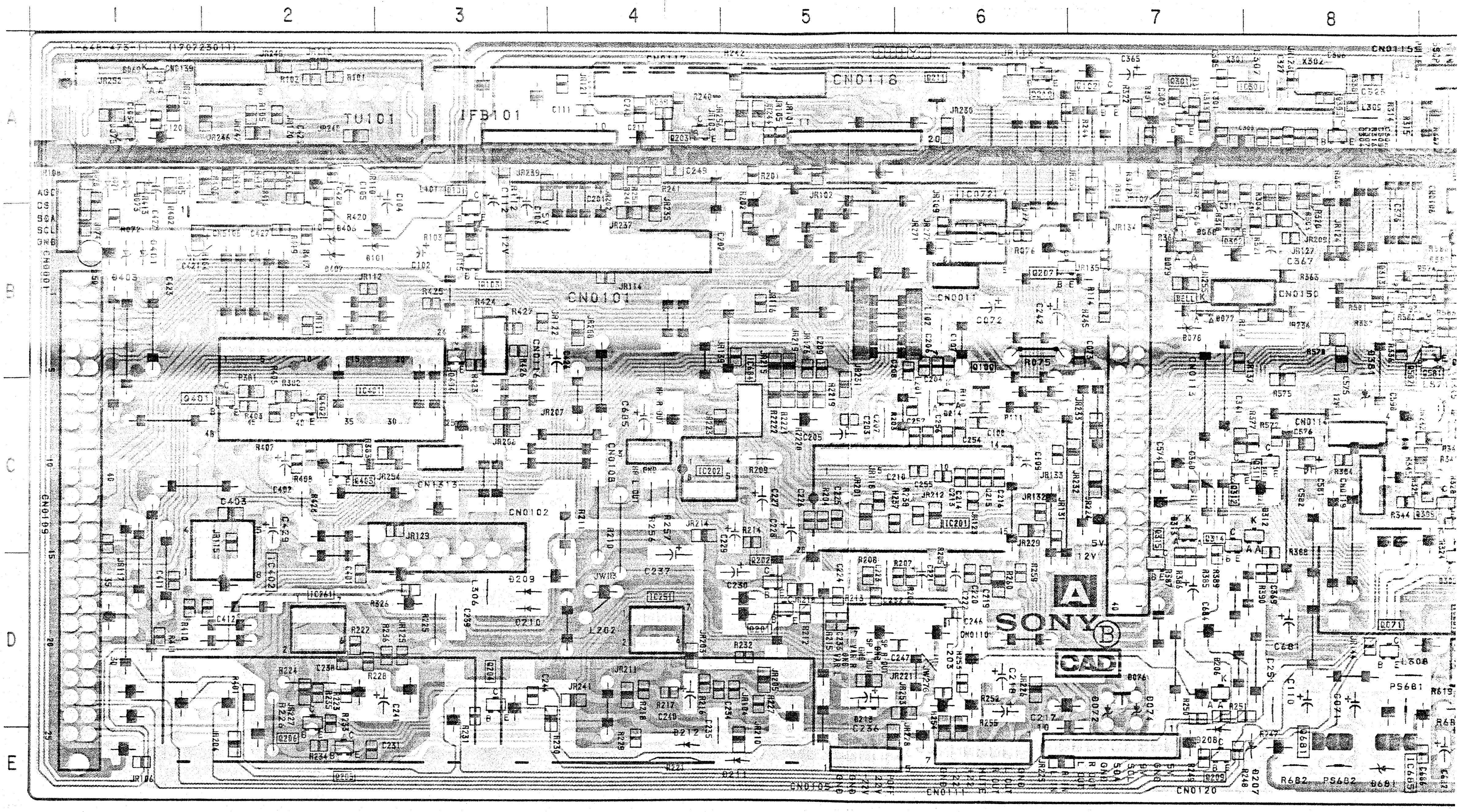
TRANSISTOR

TRANSISTOR	
Q071	D - 8
Q101	A - 3
Q102	A - 7
Q103	A - 3
Q201	D - 5
Q202	D - 5
Q203	A - 4
Q204	D - 3
Q205	E - 2
Q206	D - 2
Q207	B - 6
Q209	E - 7
Q210	A - 6
Q301	A - 7
Q302	B - 7
Q303	D - 10
Q304	D - 10
Q305	A - 8
Q306	D - 10
Q308	C - 9
Q309	C - 9
Q311	C - 8
Q312	C - 8
Q313	B - 8
Q314	C - 7
Q315	D - 7
Q401	C - 2
Q402	C - 2
Q403	C - 2
Q404	B - 3
Q581	B - 9
Q582	B - 9
Q610	E - 9
Q681	E - 7
Q682	D - 9

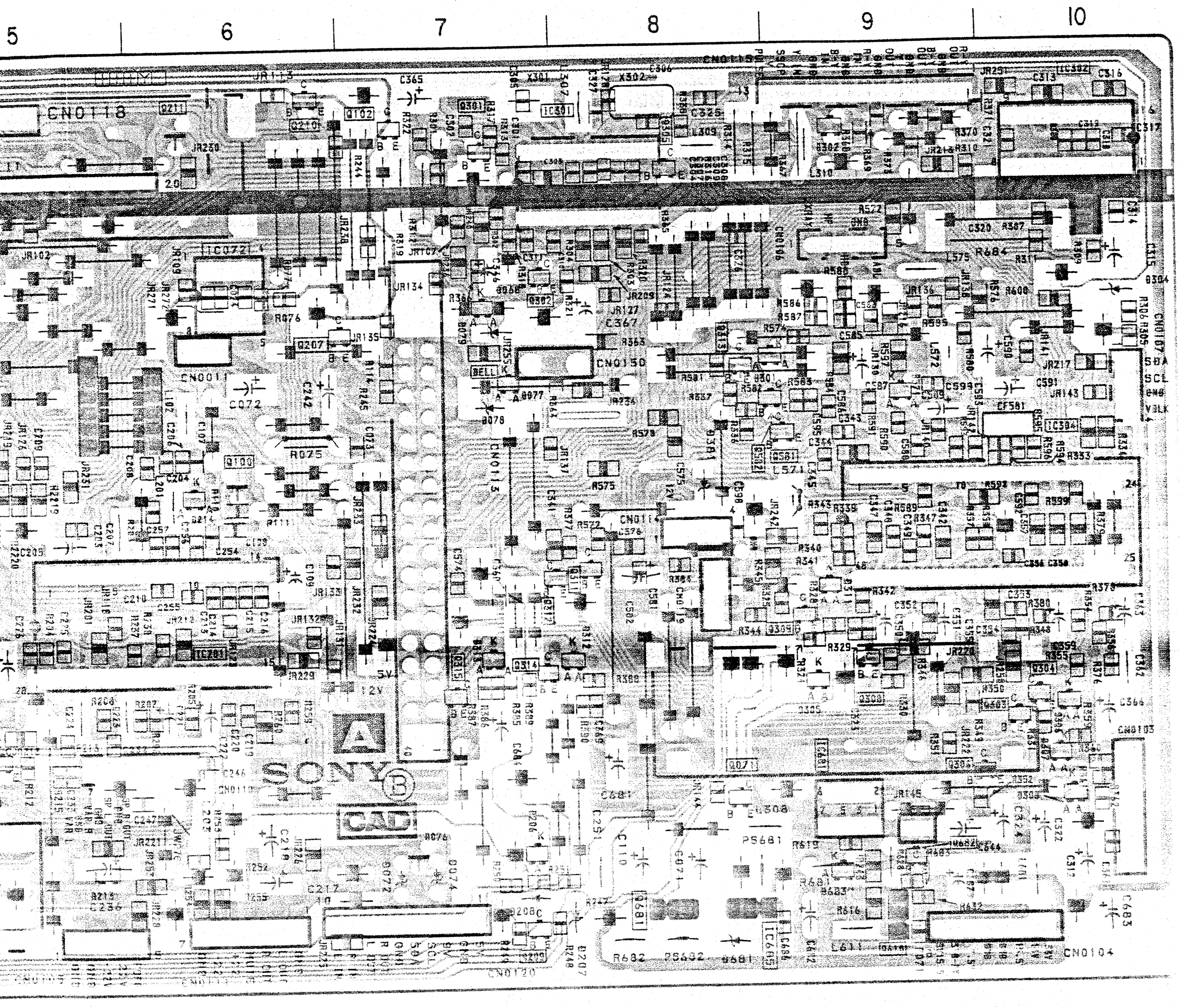
DIODE

DIODE	
D068	B - 7
D069	A - 1
D071	A - 1
D073	A - 1
D075	A - 1
D077	B - 7
D078	B - 7
D079	B - 7
D101	B - 2
D206	D - 7
D207	E - 7
D208	D - 7
D209	D - 3
D210	D - 3
D211	E - 5
D212	E - 4
D213	D - 5
D214	C - 6
D301	B - 9
D302	A - 9
D304	B - 10
D305	C - 9
D306	D - 10
D307	D - 10
D308	D - 10
D311	C - 9
D312	C - 8
D313	C - 7
D381	C - 8
D401	B - 1
D403	B - 1
D405	A - 1
D406	B - 2
D407	B - 2
D571	B - 9
D681	E - 8
D683	D - 9

- A BOARD -

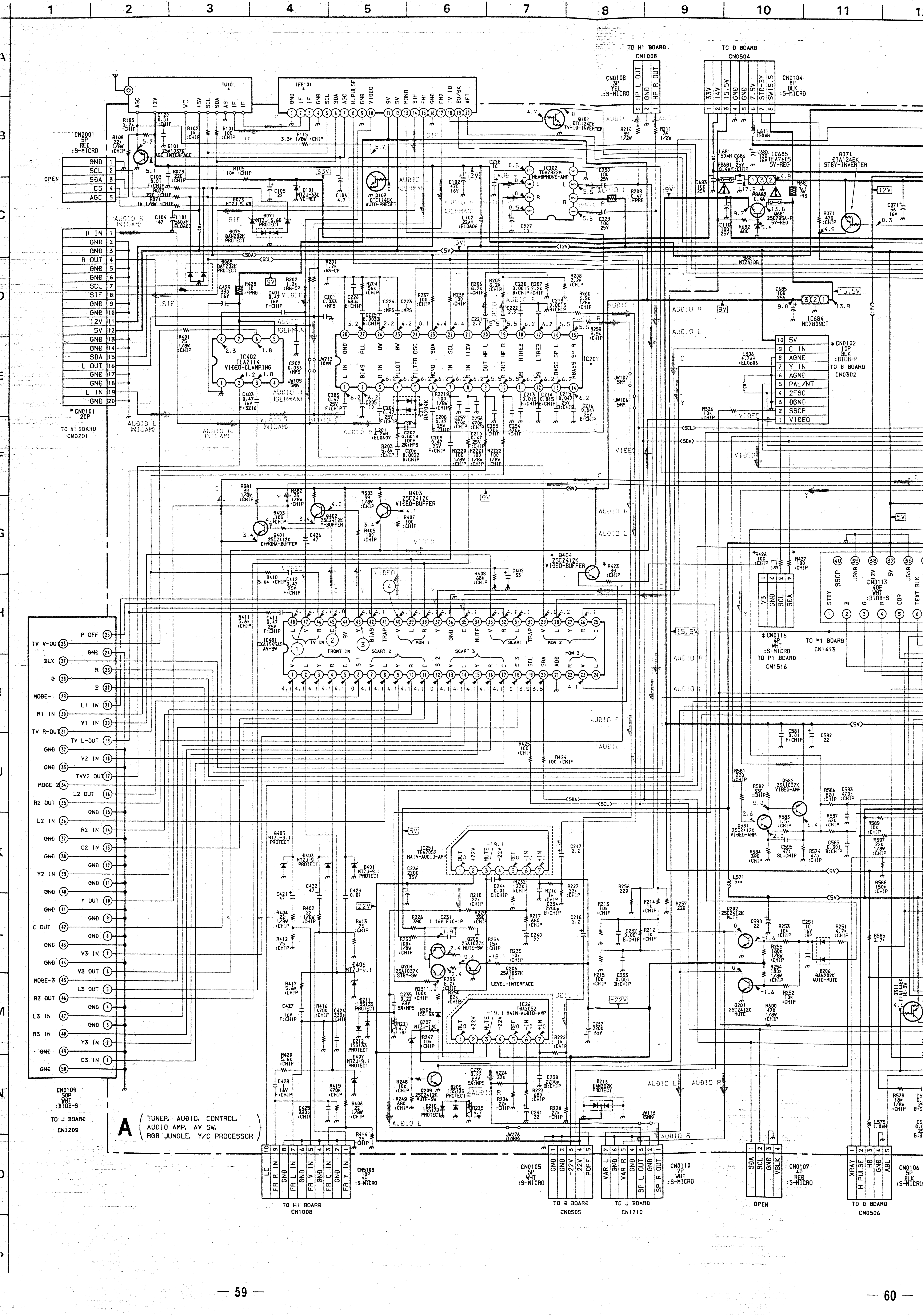

1
2
3
4
5
6
7
8
A
B
C
D
E
TU101
IFB101
CN0118
CN0101
CN0102
CN0109
CN0105
CN0111
CN0120
IC401
IC202
IC201
IC251
IC261
IC072
SONY
A
B
CAD

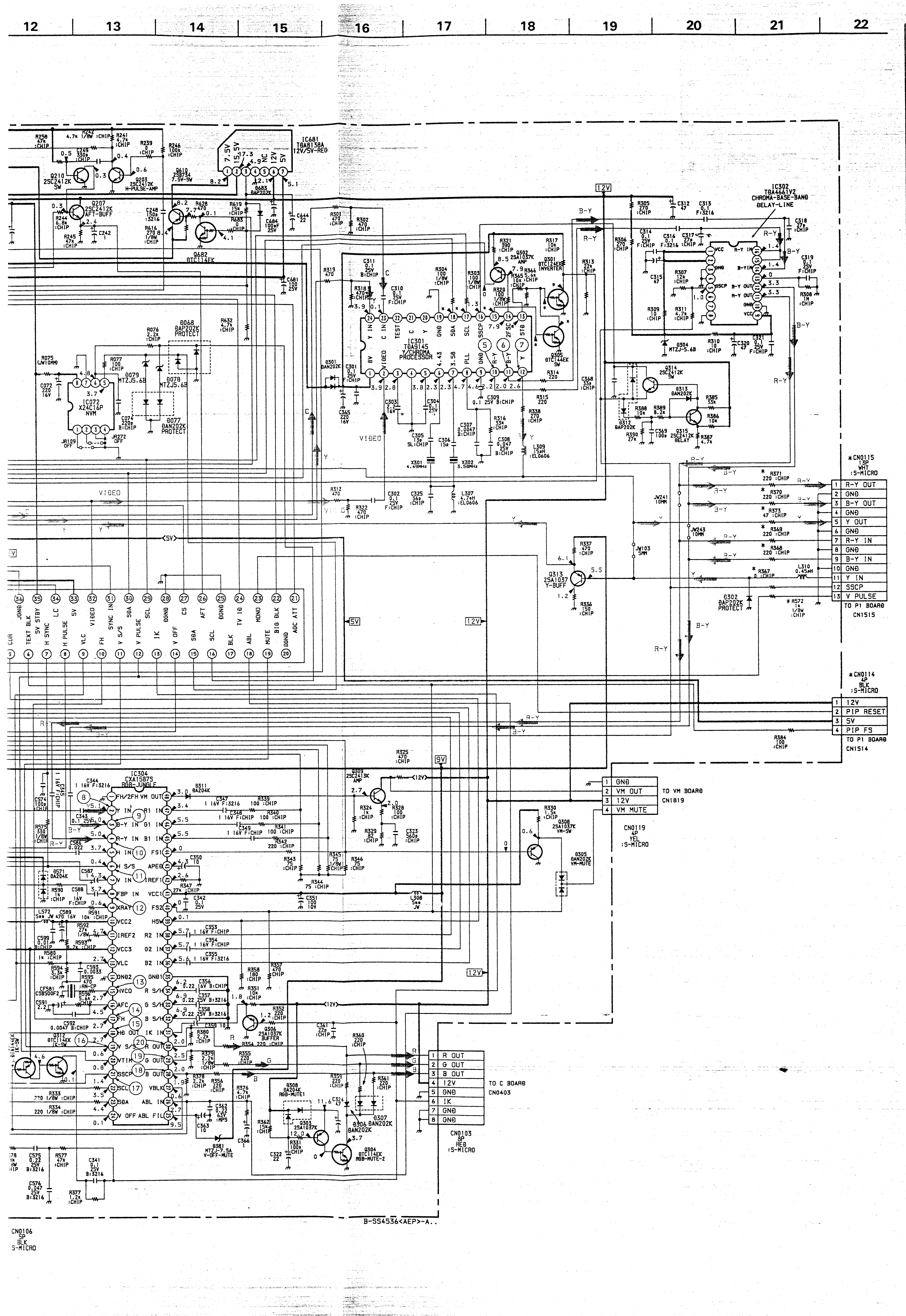
Note :


5
6
7
8
9
10
CN0118
CN0150
CN0111
CN0113
CN0104
CN0103
CN0120
CN0107
IC301
IC302
IC304
IC281
IC072
SDA
SCL
GND
V3LK
5V
12V
A
SONY
B
CAD

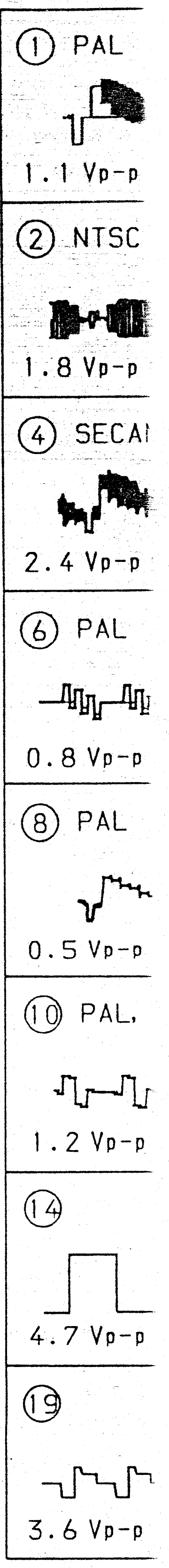
Note :

- : Pattern from the side which enables [illegible]
- ▨ : Pattern of the rear side.


1
2
3
4
5
6
7
8
9
10
11
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
TU101
IFB101
CN0001 5P RED :S-MICRO
OPEN
GND
SCL
SDA
CS
AGC
Q101 2SA1037K AGC-INTERFACE
Q103 DTC114EK AUTO-PRESET
Q102 DTC124EK TV-16-INVERTER
IC202 TDA2822M HEADPHONE-AMP
TO H1 BOARD CN1008
CN0108 3P YEL :S-MICRO
HP L OUT
GND
HP R OUT
TO D BOARD CN0504
CN0104 8P BLK :S-MICRO
33V
14V
15.5V
GND
7.5V
STB-BY
SW15.5
IC685 TEA7605 5V-REG
Q681 2SD795A-P 5V-REG
Q071 DTA124EK STBY-INVERTER
IC684 MC7809CT
*CN0102 10P BLK :BTOB-P TO B BOARD CN0302
5V
C IN
AGND
Y IN
AGND
PAL/NT
2FSC
DGND
SSCP
VIDEO
*CN0101 20P
TO A1 BOARD CN0201
R IN
GND
R OUT
SCL
SIF
12V
5V
SDA
L OUT
L IN
IC402 TDA2114 VIDEO-CLAMPING
IC201
AUDIO R (NICAM)
AUDIO L (NICAM)
AUDIO R (GERMAN)
AUDIO L (GERMAN)
Q401 2SC2412K CHROMA-BUFFER
Q402 2SC2412K Y-BUFFER
Q403 2SC2412K VIDEO-BUFFER
*Q404 2SC2412K VIDEO-BUFFER
IC401 CXA1545AS AV-SW
FRONT IN
SCART 2
SCART 3
MON 1
MON 2
MON 3
TV IN
*CN0116 4P WHT :S-MICRO TO P1 BOARD CN1516
V3
GND
SCL
SDA
CN0113 40P WHT :BTOB-S TO M1 BOARD CN1413
STBY
SSCP
TEXT BLK
CN0109 50P WHT :BTOB-S
TO J BOARD CN1209
P OFF
TV V-OUT
BLK
R
G
B
MODE-1
L1 IN
R1 IN
V1 IN
TV R-OUT
TV L-OUT
V2 IN
TVV2 OUT
MODE 2
L2 OUT
R2 OUT
L2 IN
R2 IN
C2 IN
Y2 IN
Y OUT
C OUT
V3 IN
V3 OUT
MODE-3
L3 OUT
R3 OUT
L3 IN
R3 IN
Y3 IN
C3 IN
IC251 TDA2052 MAIN-AUDIO-AMP
IC261 TDA2052 MAIN-AUDIO-AMP
Q205 2SA1037K MUTE-SW
Q206 2SA1037K DC LEVEL-INTERFACE
Q208 2SA1037K STBY-SW
Q209 2SC2412K MUTE-SW
Q581 2SC2412K VIDEO-AMP
Q582 2SA1037K VIDEO-AMP
Q202 2SC2412K MUTE
Q201 2SC2412K MUTE
D206 DAN202K AUTO-MUTE
A
TUNER, AUDIO, CONTROL, AUDIO AMP, AV SW, RGB JUNGLE, Y/C PROCESSOR
CN5108 10P YEL :S-MICRO
TO H1 BOARD CN1008
LC
FR R IN
GND
FR L IN
FR V IN
FR C IN
FR Y IN
CN0105 5P WHT :S-MICRO
TO D BOARD CN0505
-22V
POFF
CN0110 7P WHT :S-MICRO
TO J BOARD CN1210
VAR L
VAR R
SP L OUT
SP R OUT
CN0107 4P RED :S-MICRO
OPEN
VBLK
CN0106 5P BLK :S-MICRO
TO D BOARD CN0506
XRAY
H PULSE
HD
ABL


12
13
14
15
16
17
18
19
20
21
22
IC681 TDA8138A 12V/5V-REG
IC302 TDA4661V2 CHROMA-BASE-BAND DELAY-LINE
IC301 TDA9145 Y/CHROMA PROCESSOR
IC072 X24C16P NVM
IC304 CXA1587S RGB-JUNGLE
Q210 2SC2412K SW
Q207 2SC2412K AFT-BUFF
Q203 2SC2412K H-PULSE-AMP
Q610 2SB734 7.5V-5V
Q682 DTC114EK
Q302 2SA1037K AMP
Q301 DTC124EK INVERTER
Q305 DTC144EK SW
Q314 2SC2412K SW
Q315 2SC2412K DELAY
Q313 2SA1037 Y-BUFF
Q309 2SC2413K AMP
Q308 2SA1037K VM-SW
Q306 2SA1037K BUFFER
Q303 2SA1037K
Q304 DTC114EK RGB-MUTE-2
D068 DAP202K PROTECT
D077 DAN202K PROTECT
D078 MTZJ5.6B
D079 MTZJ5.6B
D302 DAP202K PROTECT
D305 DAN202K VM-MUTE
D308 DA204K RGB-MUTE1
D381 MTZJ-7.5A V-OFF-MUTE
X301 4.43MHz
X302 3.58MHz
*CN0115 13P WHT :S-MICRO
1 R-Y OUT
2 GND
3 B-Y OUT
4 GND
5 Y OUT
6 GND
7 R-Y IN
8 GND
9 B-Y IN
10 GND
11 Y IN
12 SSCP
13 V PULSE
TO P1 BOARD CN1515
*CN0114 4P BLK :S-MICRO
1 12V
2 PIP RESET
3 5V
4 PIP FS
TO P1 BOARD CN1514
1 GND
2 VM OUT
3 12V
4 VM MUTE
TO VM BOARD CN1819
CN0119 4P YEL :S-MICRO
1 R OUT
2 G OUT
3 B OUT
4 12V
5 GND
6 IK
7 GND
8 GND
TO C BOARD CN0403
CN0103 8P RED :S-MICRO
CN0106 5P BLK S-MICRO
B-SS4536<AEP>-A..

• WAVEFO


① PAL
1.1 Vp-p
② NTSC
1.8 Vp-p
④ SECA
2.4 Vp-p
⑥ PAL
0.8 Vp-p
⑧ PAL
0.5 Vp-p
⑩ PAL,
1.2 Vp-p
⑭
4.7 Vp-p
⑲
3.6 Vp-p

As to the
the mark ※
Diagram, se

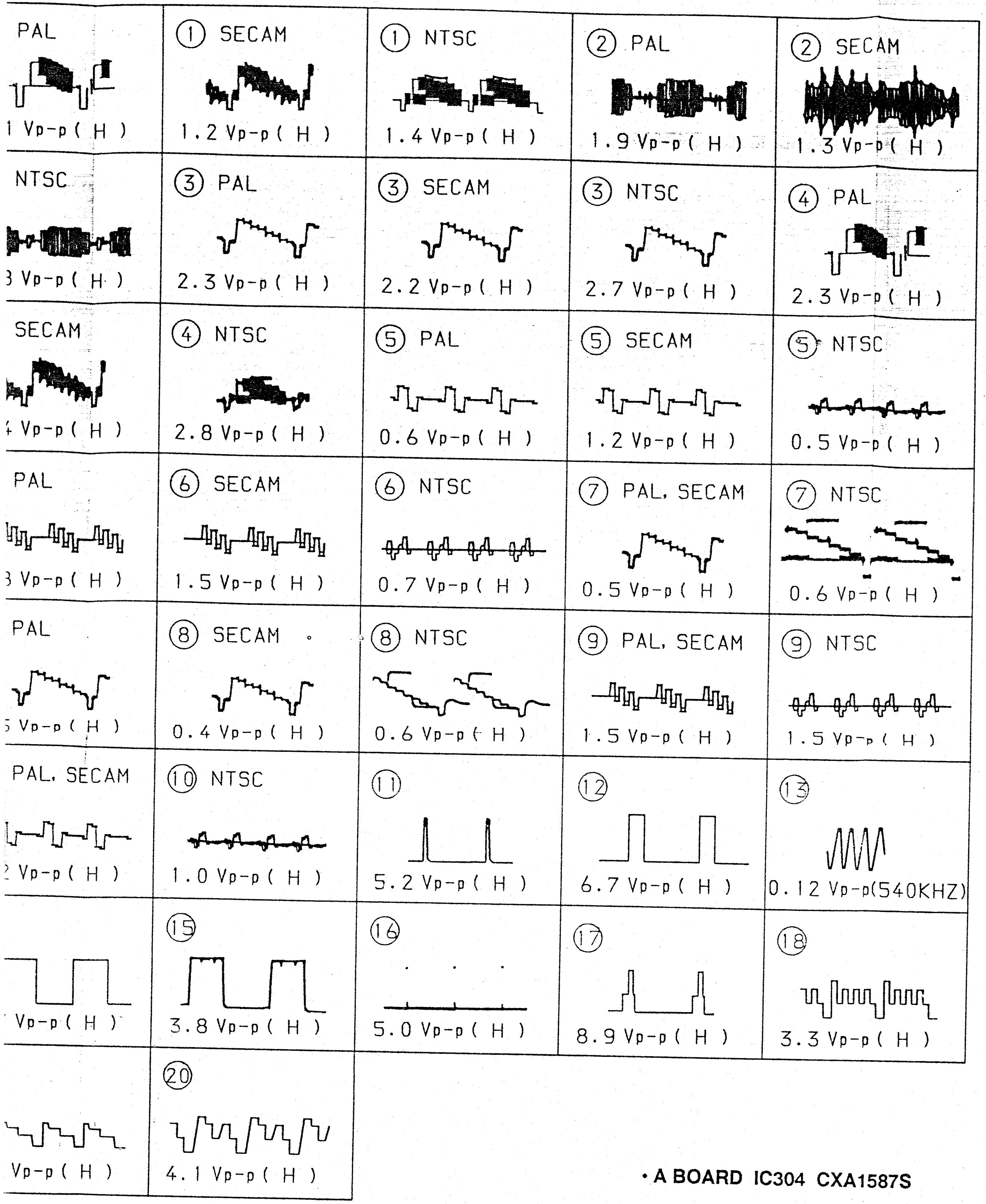
A BOARD

	PA
IC301 ⑬	0.
⑮	0.
⑰	4.7
⑱	4.8
Q301(B)	0.
(C)	5.5
Q305(B)	0.
(C)	0.

A BOARD *

Model
CN0101
CN0102
CN0114
CN0115
CN0116
IC201
IFB101
Q404
R367
R368
R369
R370
R371
R373
R423
R426
R427
R572
TU101

VEFORMS A BOARD



the voltage volue shown by
ark ※ on the Schematic
n, see the another list.

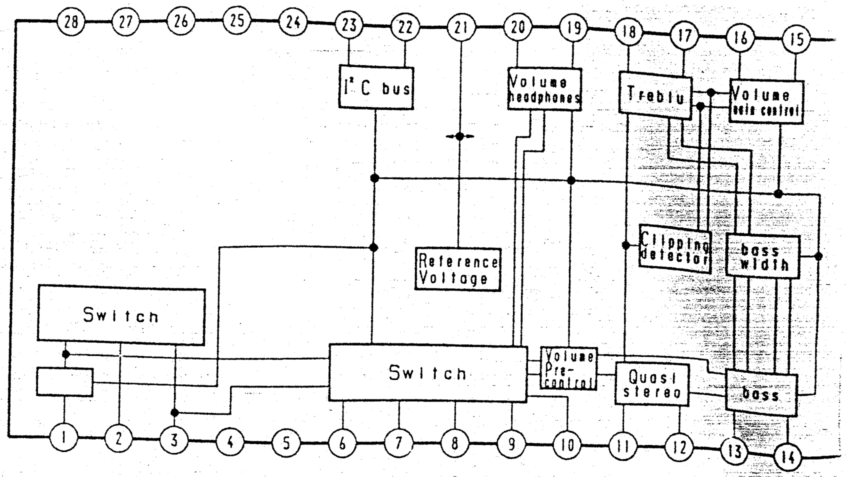
RD

PAL	SECAM	NTSC3.58	NTSC4.43
0.0	0.0	4.8	4.9
0.0	5.0	5.0	0.0
4.7	4.2	3.6	4.1
4.8	4.4	4.6	4.8
0.0	0.0	0.0	1.6
5.5	5.5	5.5	0.1
0.0	5.5	5.5	0.0
0.0	0.0	0.0	1.6

RD * MARK

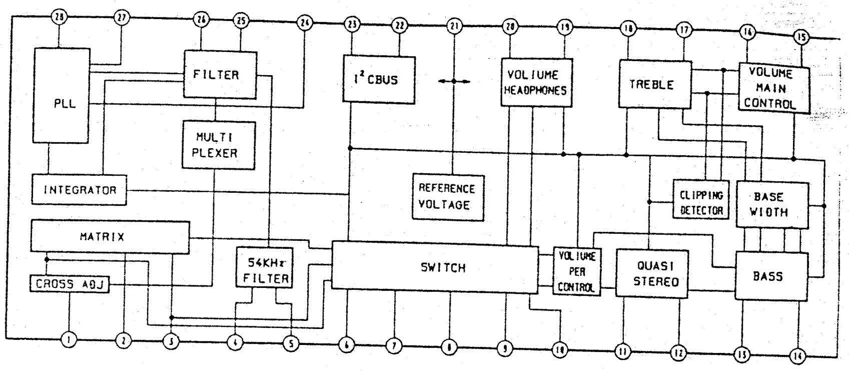
el	Italian	French	AEP	Spanish	UK
	–	–	–	20P	20P
	10P	–	10P	10P	10P
	–	4P	–	–	–
	–	13P	–	–	–
	–	4P	–	–	–
	TDA6612	TDA6612	TDA6612	TDA6612	TDA6622
	IFH-389	IFH-389F	IFH-389	IFH-389	IFH-395
	–	2SC2412K	–	–	–
	–	3.9K 1/10W	–	–	–
	–	220 1/10W	–	–	–
	–	220 1/10W	–	–	–
	–	220 1/10W	–	–	–
	–	220 1/10W	–	–	–
	–	47 1/10W	–	–	–
	–	39 : CHIP	–	–	–
	–	100 1/10W	–	–	–
	–	100 1/10W	–	–	–
	–	1K 1/10W	–	–	–
	UV916H.	UV916H	UV916H	UV916H	U944C

• A BOARD IC201 TDA6622 (UK Model only)



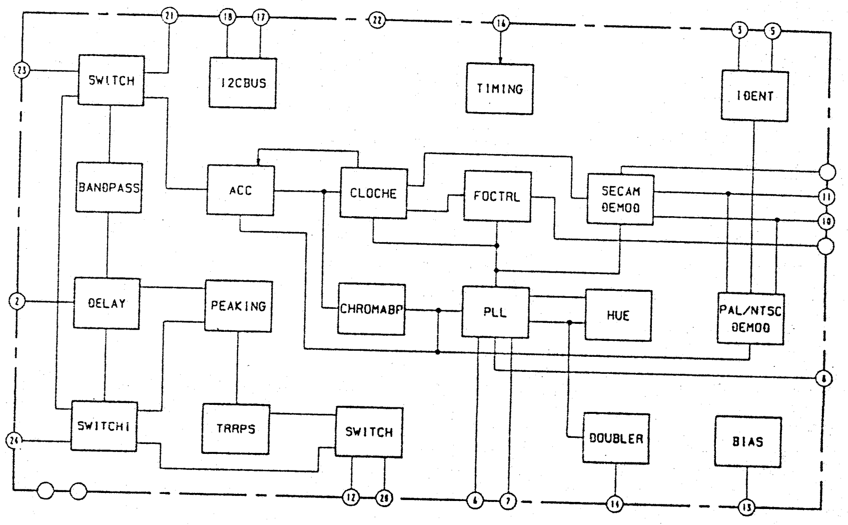
I²C bus
Volume headphones
Treble
Volume main control
Reference Voltage
Clipping detector
bass width
Switch
Switch
Volume Pre-control
Quasi stereo
bass

• A BOARD IC201 TDA6612



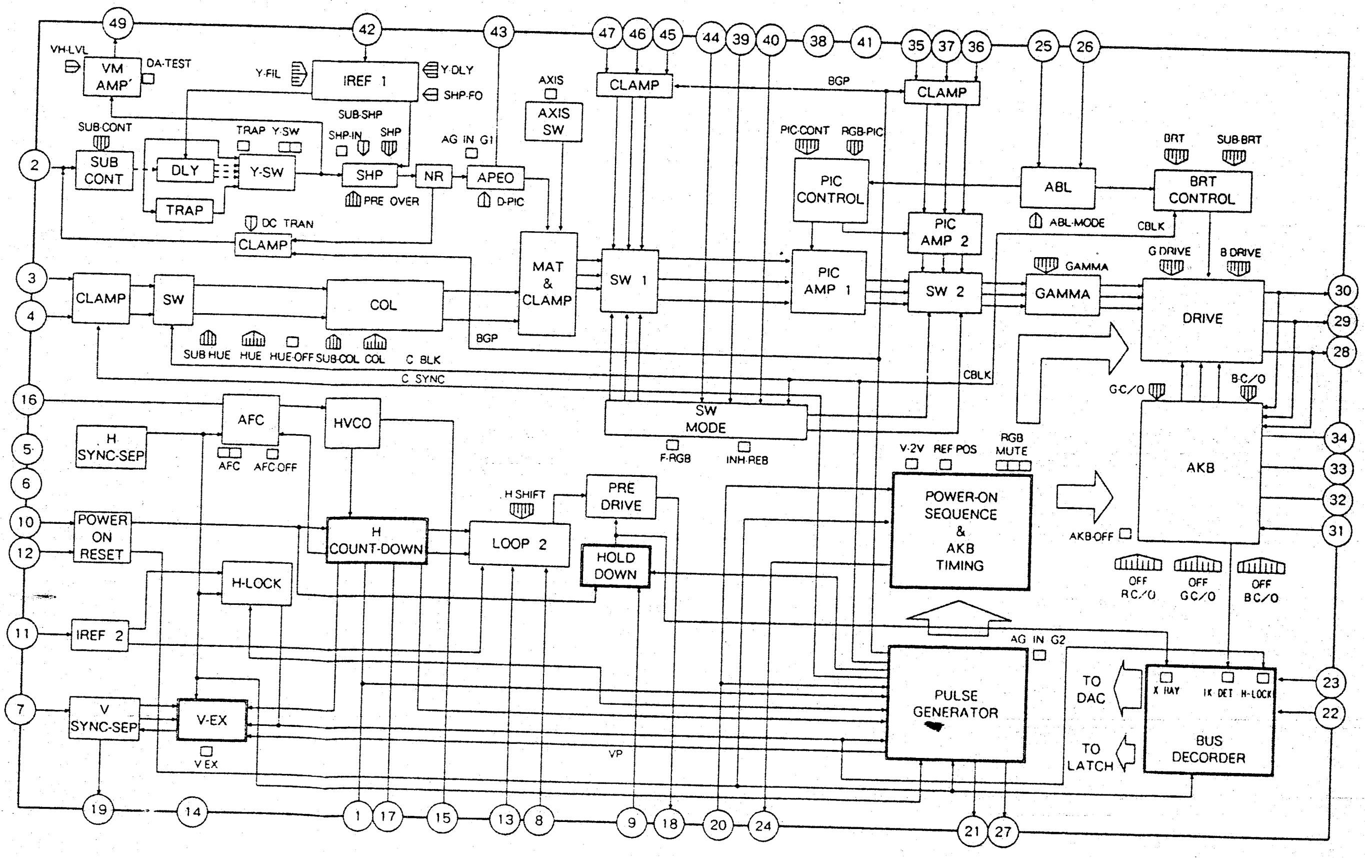
PLL
FILTER
MULTI PLEXER
I²CBUS
VOLUME HEADPHONES
TREBLE
VOLUME MAIN CONTROL
INTEGRATOR
REFERENCE VOLTAGE
CLIPPING DETECTOR
BASE WIDTH
MATRIX
CROSS ADJ
54KHz FILTER
SWITCH
VOLUME PER CONTROL
QUASI STEREO
BASS

• A BOARD IC301 TDA9145



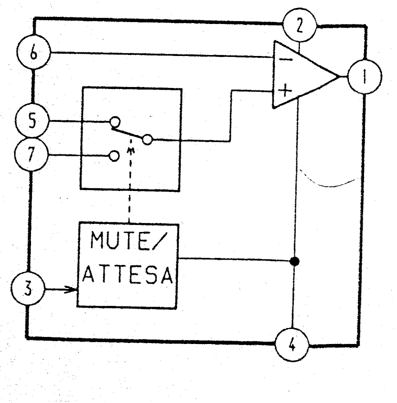
SWITCH
I2CBUS
TIMING
IDENT
BANDPASS
ACC
CLOCHE
FOCTRL
SECAM DEMOD
DELAY
PEAKING
CHROMABP
PLL
HUE
PAL/NTSC DEMOD
SWITCHI
TRAPS
SWITCH
DOUBLER
BIAS

• A BOARD IC304 CXA1587S



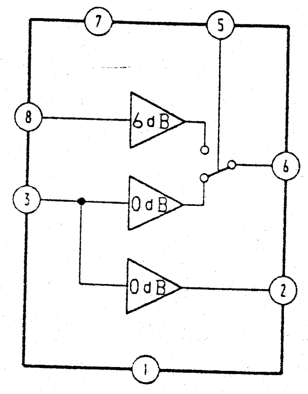
VH-LVL
VM AMP
DA-TEST
Y-FIL
IREF 1
Y DLY
SHP-FO
SUB-SHP
SUB CONT
SUB CONT
TRAP
Y-SW
DLY
Y-SW
SHP-IN
SHP
SHP
NR
AG IN G1
APEO
PRE OVER
D-PIC
DC TRAN
CLAMP
AXIS
AXIS SW
CLAMP
BGP
CLAMP
PIC CONT
RGB-PIC
PIC CONTROL
ABL
BRT
SUB-BRT
BRT CONTROL
ABL-MODE
CBLK
PIC AMP 2
PIC AMP 1
G DRIVE
B DRIVE
GAMMA
CLAMP
SW
COL
MAT & CLAMP
SW 1
SW 2
GAMMA
DRIVE
SUB HUE
HUE
HUE OFF
SUB-COL
COL
C BLK
BGP
C SYNC
CBLK
GC/O
BC/O
AFC
HVCO
SW MODE
H SYNC-SEP
AFC
AFC OFF
F-RGB
INH-RGB
V-2V
REF POS
RGB MUTE
AKB
POWER-ON RESET
H COUNT-DOWN
H SHIFT
PRE DRIVE
LOOP 2
HOLD DOWN
POWER-ON SEQUENCE & AKB TIMING
AKBOFF
OFF RC/O
OFF GC/O
OFF BC/O
H-LOCK
IREF 2
AG IN G2
PULSE GENERATOR
TO DAC
TO LATCH
X RAY
IK DET
H-LOCK
BUS DECORDER
V SYNC-SEP
V-EX
V EX
VP

• A BOARD IC251/261 TDA2052

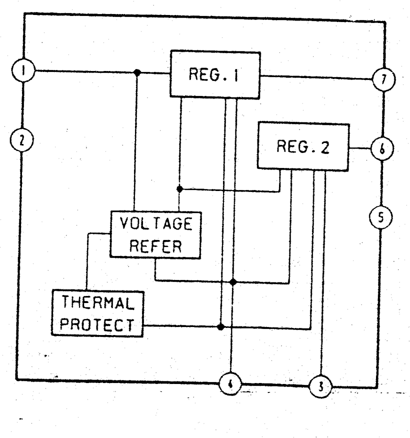


MUTE/ ATTESA

• A BOARD IC402 TEA2114

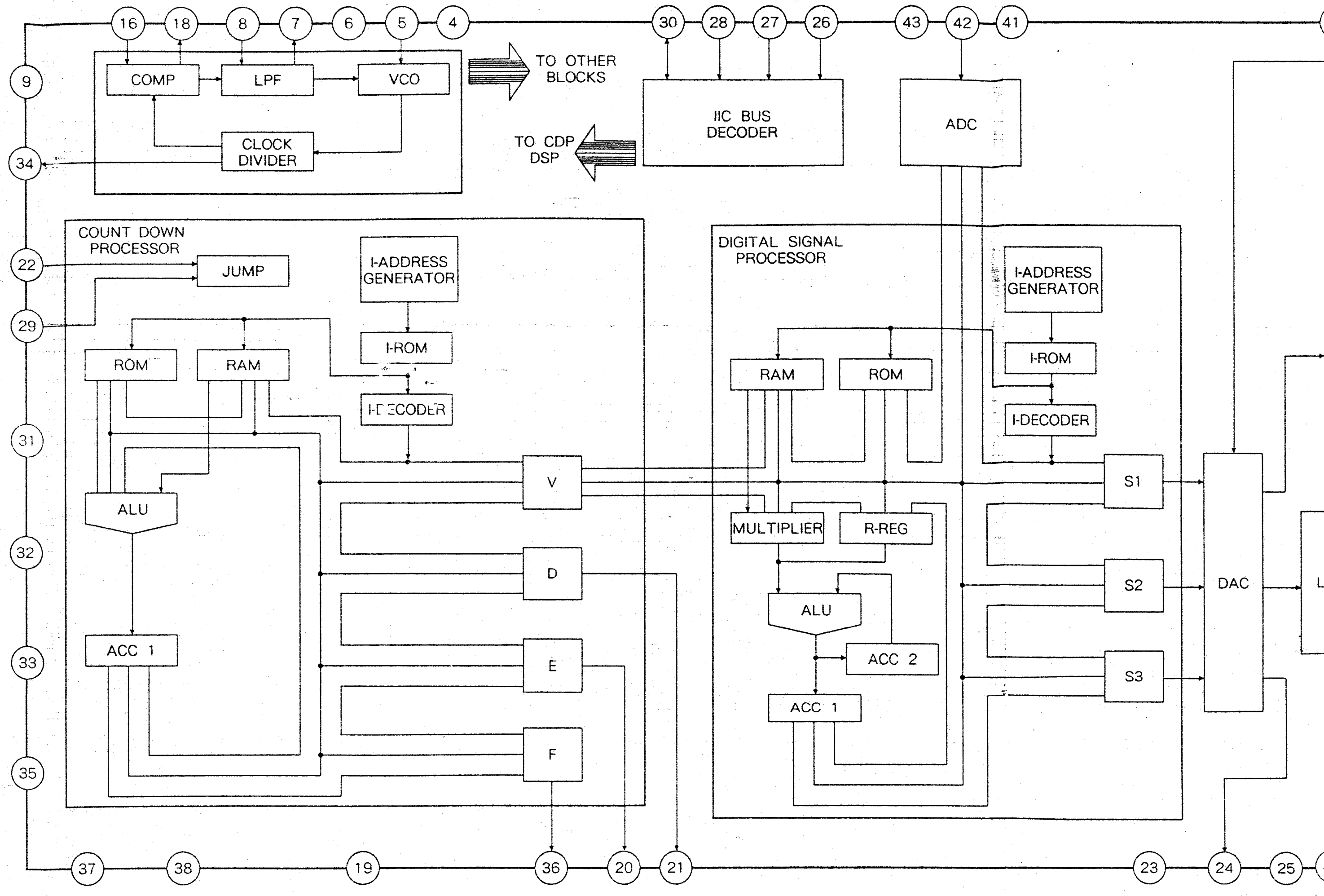


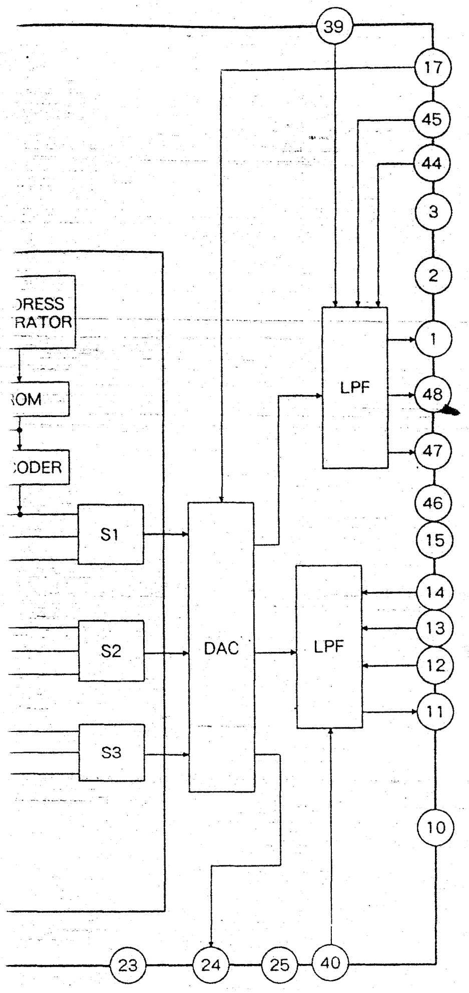
• A BOARD IC681 TDA8134A



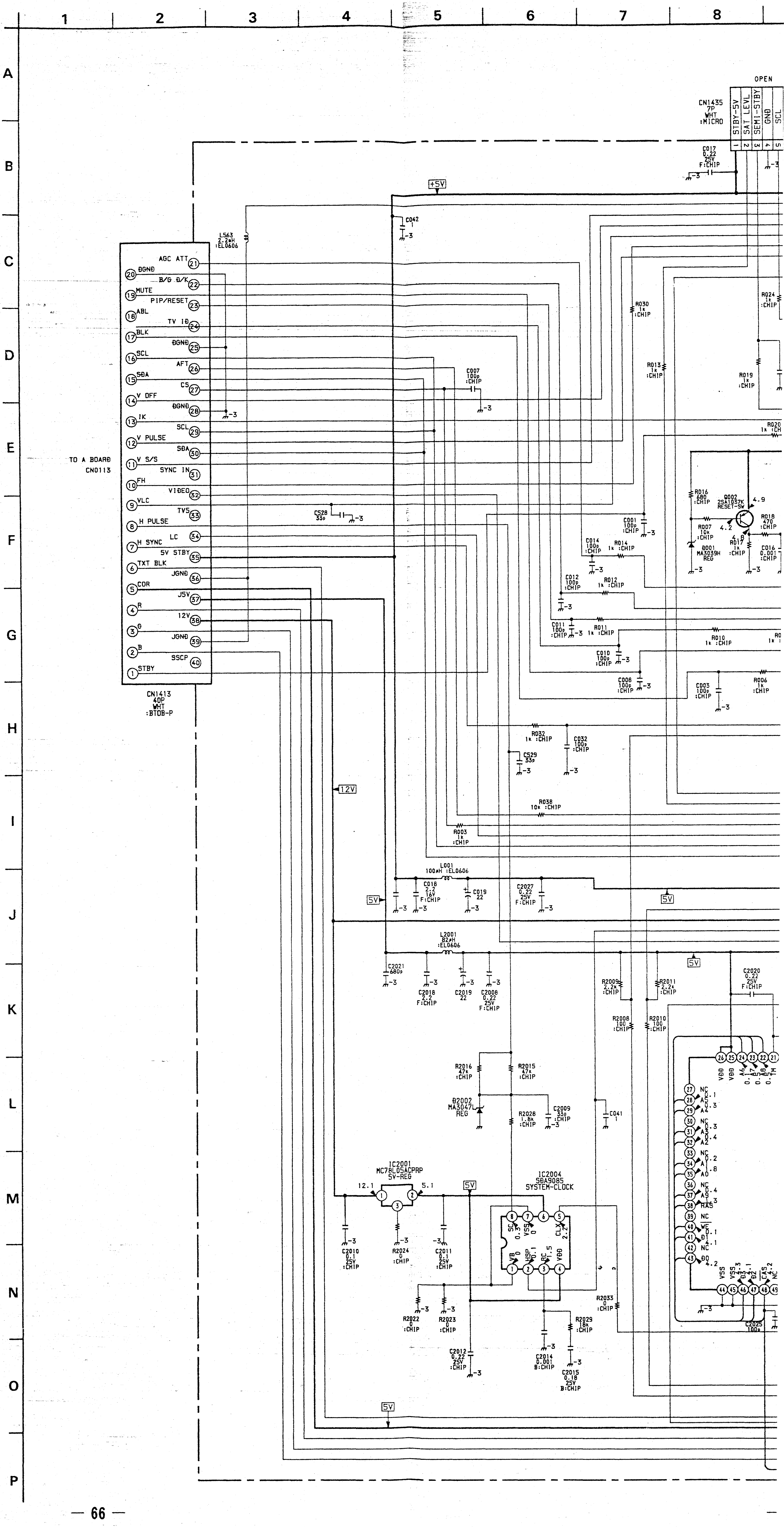
REG. I
REG. 2
VOLTAGE REFER
THERMAL PROTECT

• M1 BOARD IC561 CXD2018Q

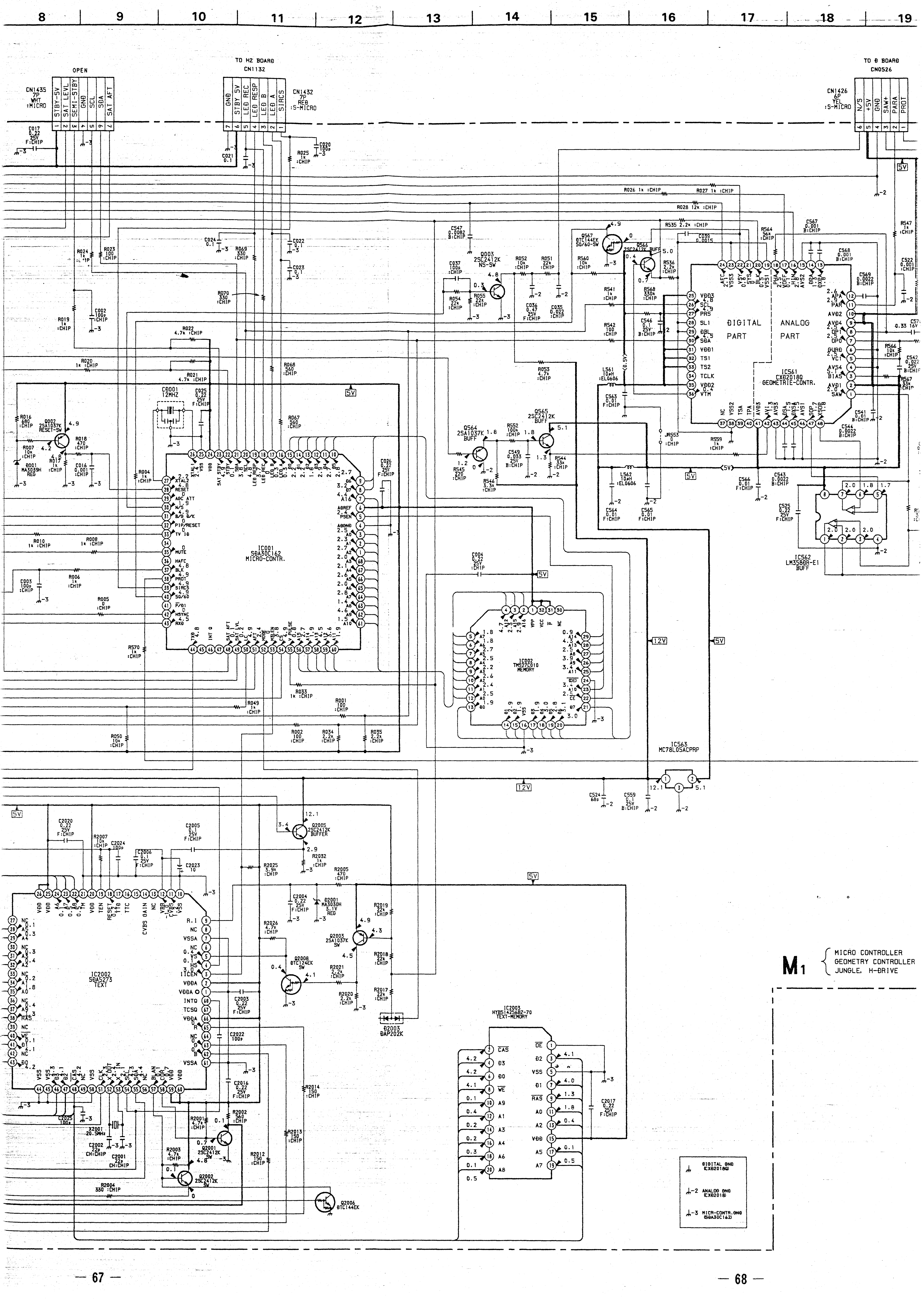

16
18
8
7
6
5
4
30
28
27
26
43
42
41
9
34
22
29
31
32
33
35
COMP
LPF
VCO
CLOCK DIVIDER
TO OTHER BLOCKS
TO CDP DSP
IIC BUS DECODER
ADC
COUNT DOWN PROCESSOR
JUMP
I-ADDRESS GENERATOR
ROM
RAM
I-ROM
I-DECODER
ALU
ACC 1
V
D
E
F
DIGITAL SIGNAL PROCESSOR
RAM
ROM
I-ADDRESS GENERATOR
I-ROM
I-DECODER
MULTIPLIER
R-REG
ALU
ACC 2
ACC 1
S1
S2
S3
DAC
37
38
19
36
20
21
23
24
25



DRESS
RATOR
ROM
CODER
S1
S2
S3
DAC
LPF
LPF

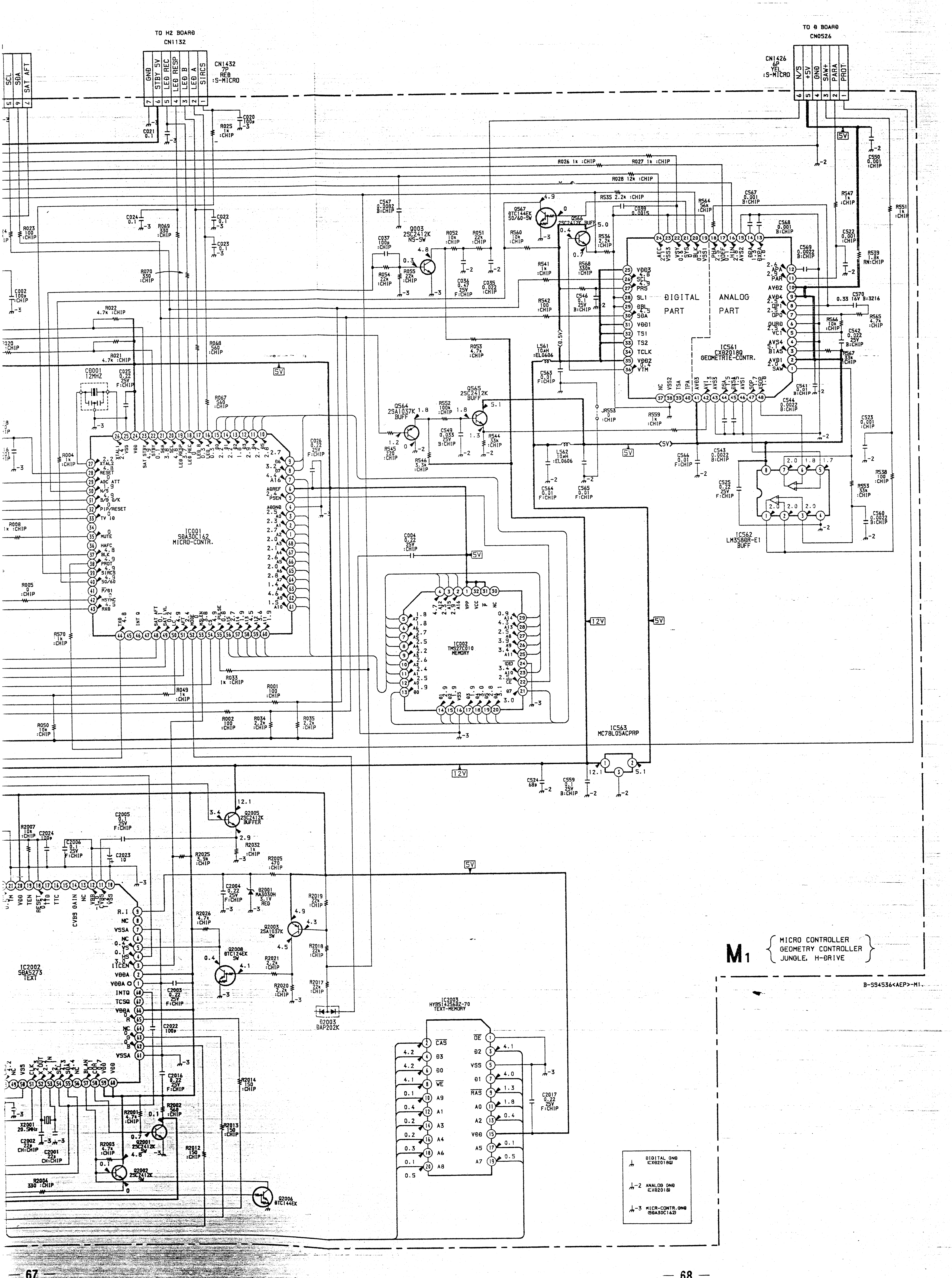


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
P
OPEN
CN1435 7P WHT :MICRO
STBY-5V
SAT LEVL
SEMI-STBY
GND
SCL
C017 0.22 25V F:CHIP
+5V
C042 1
L563 2.2µH :EL0606
AGC ATT
BGND
B/G D/K
MUTE
PIP/RESET
ABL
TV ID
BLK
DGND
SCL
AFT
SDA
CS
V OFF
DGND
IK
SCL
V PULSE
SDA
V S/S
SYNC IN
FH
VIDEO
VLC
TVS
H PULSE
LC
H SYNC
5V STBY
TXT BLK
JGND
COR
J5V
R
12V
G
JGND
B
SSCP
STBY
CN1413 40P WHT :BTOB-P
TO A BOARD CN0113
C007 100p :CHIP
C528 33p
R030 1k :CHIP
R013 1k :CHIP
R024 1k :CHIP
R019 1k :CHIP
R020 1k :CHIP
R016 680 :CHIP
Q002 2SA1037K RESET-SW
4.9
4.2
4.8
R018 470 :CHIP
R007 10k :CHIP
D001 MA3039H REG
R017 1k :CHIP
C016 0.001 :CHIP
C001 100p :CHIP
C014 100p :CHIP
R014 1k :CHIP
C012 100p :CHIP
R012 1k :CHIP
C011 100p :CHIP
R011 1k :CHIP
R010 1k :CHIP
C010 100p :CHIP
C006 100p :CHIP
C003 100p :CHIP
R006 1k :CHIP
R032 1k :CHIP
C032 100p :CHIP
C529 33p
R038 10k :CHIP
R003 1k :CHIP
12V
L001 100µH :EL0606
C018 2.2 16V F:CHIP
C019 22
C2027 0.22 25V F:CHIP
5V
L2001 82µH :EL0606
C2021 680p
C2018 2.2 F:CHIP
C2019 22
C2008 0.22 25V F:CHIP
R2009 2.2k :CHIP
R2011 2.2k :CHIP
R2008 100 :CHIP
R2010 100 :CHIP
C2020 0.22 25V F:CHIP
R2016 47k :CHIP
R2015 47k :CHIP
D2002 MA3047L REG
R2028 1.8k :CHIP
C2009 33p :CHIP
C041 1
IC2001 MC78L05ACPRP 5V-REG
12.1
5.1
IC2004 S6A9085 SYSTEM-CLOCK
SC
VSS
CLX
VB
HSP
RC
VDD
C2010 0.1 25V :CHIP
R2024 0 :CHIP
C2011 0.1 25V :CHIP
R2022 0 :CHIP
R2023 0 :CHIP
C2012 0.22 25V :CHIP
C2014 0.001 B:CHIP
R2029 18k :CHIP
C2015 0.18 25V B:CHIP
R2033 0 :CHIP
C2025 100p
VDD
NC
RAS
VSS
CAS

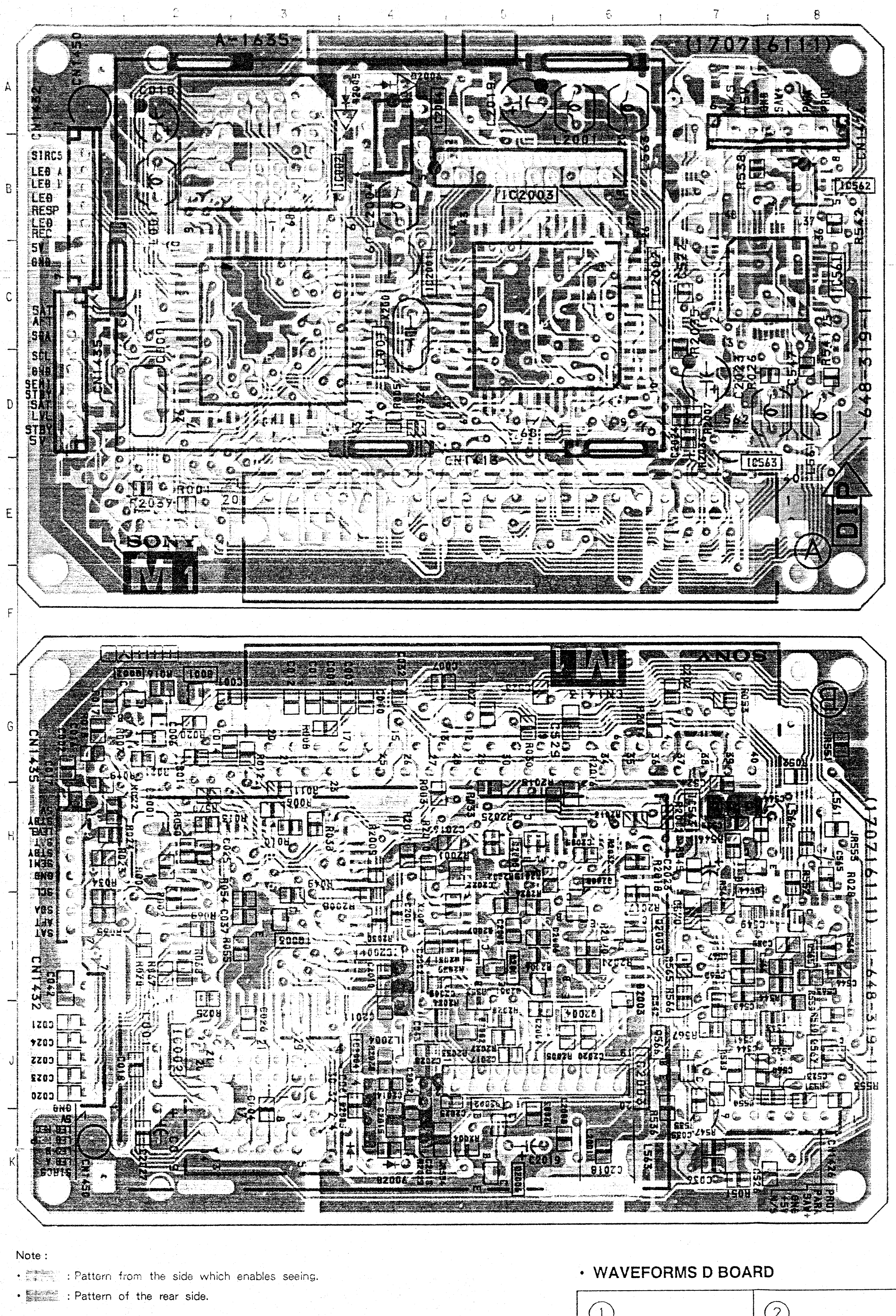


8
9
10
11
12
13
14
15
16
17
18
19
OPEN
CN1435 7P WHT :MICRO
STBY-5V
SAT LEVL
SEMI-STBY
GND
SCL
SDA
SAT AFT
TO H2 BOARD CN1132
CN1432 7P RED :S-MICRO
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
TO B BOARD CN0526
CN1426 6P YEL :S-MICRO
N/S
+5V
GND
SAW+
PARA
PROT
IC001 SDA30C162 MICRO-CONTR.
CD001 12MHZ
Q002 2SA1037K RESET-SW
D001 MA3039H REG
Q003 2SC2412K NS-SW
Q567 DTC144EK 50/60-SW
Q566 2SC2412K BUFF
Q564 2SA1037K BUFF
Q565 2SC2412K BUFF
IC561 CXD2018Q GEOMETRIE-CONTR.
DIGITAL PART
ANALOG PART
IC562 LM358DR-E1 BUFF
IC002 TMS27C010 MEMORY
IC563 MC78L05ACPRP
5V
12V
IC2002 SDA5273 TEXT
X2001 20.5MHz
Q2005 2SC2412K BUFFER
D2001 MA3030H 3.1V REG
Q2003 2SA1037K SW
Q2008 DTC124EK SW
D2003 DAP202K
Q2001 2SC2412K SW
Q2002 2SC2412K SW
Q2006 DTC144EK
IC2003 HYB514256BZ-70 TEXT-MEMORY
DIGITAL GND (CXD2018Q)
-2 ANALOG GND (CXD2018)
-3 MICR-CONTR. GND (SDA30C162)

M1 { MICRO CONTROLLER
GEOMETRY CONTROLLER
JUNGLE, H-DRIVE


TO H2 BOARD
CN1132
GND
STBY 5V
LED REC
LED RESP
LED B
LED A
SIRCS
CN1432
7P
RED
:S-MICRO
SCL
SDA
SAT AFT
TO B BOARD
CN0526
CN1426
6P
YEL
:S-MICRO
N/S
+5V
GND
SAW+
PARA
PROT
R025 1k :CHIP
C020 100p
C021 0.1
C024 0.1
C022 0.1
C023 0.1
R023 100 :CHIP
R069 330 :CHIP
R070 330 :CHIP
C002 100p :CHIP
R022 4.7k :CHIP
R021 4.7k :CHIP
R068 560 :CHIP
R067 560 :CHIP
CB001 12MHZ
C025 0.22 25V F:CHIP
R004 1k :CHIP
R008 1k :CHIP
R005 0 :CHIP
R570 1k :CHIP
IC001
SDA30C162
MICRO-CONTR.
XTAL1
XTAL2
RESET
AGC ATT
N/S
B/B B/K
PIP/RESET
TV IO
MUTE
HAFC
BLK
PROT
SIRCS
50/60
P/O1
HSYNC
RXD
TXD
INT Q
SAT AFT
SAT LVL
AGREF
PSEN
ADGND
C026 0.22 25V F:CHIP
C004 0.22 25V :CHIP
R033 1k :CHIP
R049 1k :CHIP
R001 100 :CHIP
R050 10k :CHIP
R002 100 :CHIP
R034 2.2k :CHIP
R035 2.2k :CHIP
C547 0.0082 B:CHIP
C037 100p :CHIP
Q003 2SC2412K NS-SW
R054 22k :CHIP
R055 22k :CHIP
R052 10k :CHIP
R051 22k :CHIP
C036 0.47 25V F:CHIP
C035 0.022 :CHIP
R053 4.7k :CHIP
Q564 2SA1037K BUFF
Q565 2SC2412K BUFF
R545 220 :CHIP
R546 3.3k :CHIP
R552 100k :CHIP
C549 0.033 25V B:CHIP
R544 33k :CHIP
IC002
TMS27C010
MEMORY
VPP
VCC
NC
5V
12V
R026 1k :CHIP
R027 1k :CHIP
R028 12k :CHIP
R535 2.2k :CHIP
C039 0.0015
Q567 DTC144EK 50/60-SW
Q566 2SC2412K BUFF
R536 2.2k :CHIP
R560 10k :CHIP
R541 1k :CHIP
R568 330k :CHIP
R542 100 :CHIP
C546 0.1 25V B:CHIP
L561 10μH :EL0606
C563 0.01 F:CHIP
R564 56k :CHIP
C567 0.001 B:CHIP
C568 0.001 B:CHIP
C569 0.0022 B:CHIP
C522 0.001 :CHIP
R547 1k :CHIP
C550 0.001 :CHIP
R551 1k :CHIP
R539 1.8k RN:CHIP
C570 0.33 16V B:3216
R565 4.7k :CHIP
R566 10k :CHIP
C542 0.022 25V F:CHIP
R567 33k :CHIP
C541 0.01 B:CHIP
C544 0.0022 B:CHIP
C523 0.001 :CHIP
IC561
CXD2018Q
GEOMETRIE-CONTR.
DIGITAL PART
ANALOG PART
VDD3
SCL
PRS
SL1
DBL
SDA
VDD1
TS1
TS2
TCLK
VDD2
VTM
APA
PAR
AVD2
AVD4
DP1
DPO
GUR0
VC1
AVS4
BIAS
AVD1
SAW
AFC
VSS3
VSY
SYS
BLK
VSS1
PHA
VOFF
HIN
AVS2
DBA
DXA
NC
VSS2
TSA
TPA
AVD3
AVS3
DSA
DYSA
AVS1
SOP
VSOP
JR553 0 :CHIP
R559 1k :CHIP
L562 10μH :EL0606
C566 0.01 F:CHIP
C543 0.0022 B:CHIP
C564 0.01 F:CHIP
C565 0.01 F:CHIP
C525 0.22 25V F:CHIP
R553 33k :CHIP
R538 100 :CHIP
C560 0.0022 B:CHIP
IC562
LM358DR-E1
BUFF
IC563
MC78L05ACPRP
C524 68p
C559 0.1 25V B:CHIP
R2007 10k :CHIP
C2024 100p
C2006 0.1 25V F:CHIP
C2005 0.1 25V F:CHIP
C2023 10
Q2005 2SC2412K BUFFER
R2032 1k :CHIP
R2025 3.9k :CHIP
R2005 470 :CHIP
C2004 0.22 25V F:CHIP
D2001 MA3030H 3.1V REG
R2019 22k :CHIP
R2026 4.7k :CHIP
Q2003 2SA1037K SW
Q2008 DTC124EK SW
R2021 2.2k :CHIP
R2018 22k :CHIP
R2020 2.2k :CHIP
R2017 22k :CHIP
D2003 DAP202K
IC2002
SDA5273
TEXT
VDD
TEN
RESET
TTD
TTC
CVBS GAIN
NC
VSS
R.I
NC
VSSA
HS
VS
ICEN
VDDA
INTQ
TCSQ
R
G
B
C2003 0.22 25V F:CHIP
C2022 100p
C2016 0.22 25V F:CHIP
R2014 150 :CHIP
R2013 150 :CHIP
R2012 150 :CHIP
R2001 4.7k :CHIP
R2002 560 :CHIP
Q2001 2SC2412K SW
R2003 4.7k :CHIP
Q2002 2SC2412K SW
X2001 20.5MHz
C2002 22p CH:CHIP
C2001 22p CH:CHIP
R2004 330 :CHIP
Q2006 DTC144EK
IC2003
HYB514256BJ-70
TEXT-MEMORY
CAS
D3
D0
WE
A9
A1
A3
A4
A6
A8
OE
D2
VSS
D1
RAS
A0
A2
VDD
A5
A7
C2017 0.22 25V F:CHIP
M1
MICRO CONTROLLER
GEOMETRY CONTROLLER
JUNGLE, H-DRIVE
B-SS4536<AEP>-M1.
DIGITAL GND (CXD2018Q)
-2 ANALOG GND (CXD2018Q)
-3 MICR-CONTR. GND (SDA30C162)

– M1 BOARD –


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
H
I
J
K
A-1635-
(1707161111)
1-648-319-11
CN1450
CN1432
CN1435
CN1418
CN1414
CN1426
IC2003
IC002
IC562
IC561
IC563
L2001
SIRCS
LED A
LED
RESP
REC
SDA
SCL
GND
STBY
SONY
M1
DIP
A
B

IC	
IC001	C – 3
IC002	B – 3, J – 3
IC561	C – 8
IC562	B – 8
IC563	D – 7, H – 7
IC2001	C – 4, I – 4
IC2002	C – 6
IC2003	B – 5, J – 6
IC2004	A – 4, J – 4

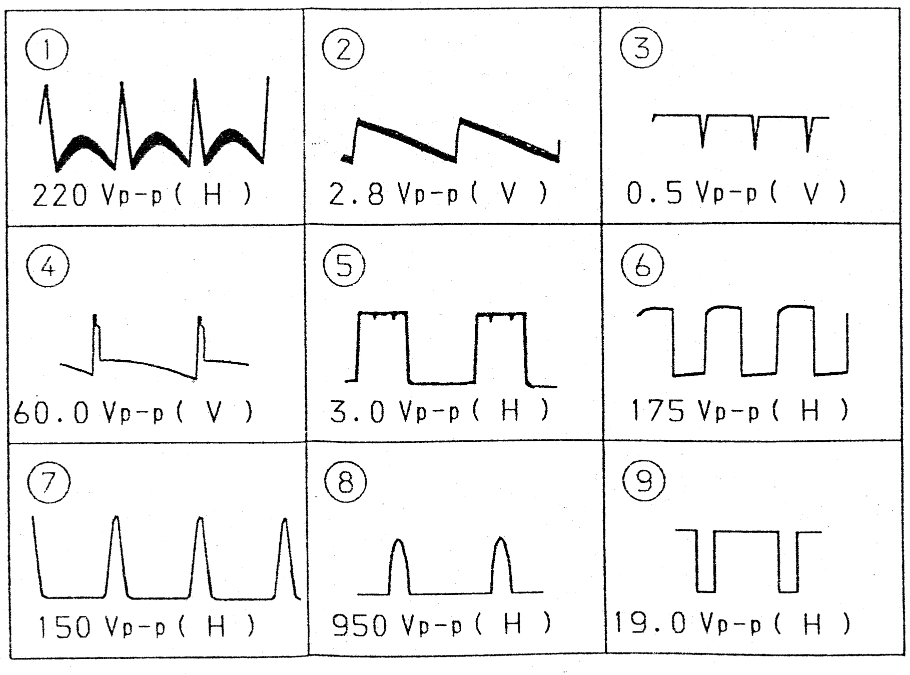
TRANSISTOR	
Q002	G – 2
Q003	I – 3
Q564	H – 7
Q565	I – 8
Q566	J – 7
Q567	J – 8
Q2001	I – 5
Q2002	J – 5
Q2003	I – 6
Q2005	H – 5
Q2006	K – 5
Q2008	I – 6

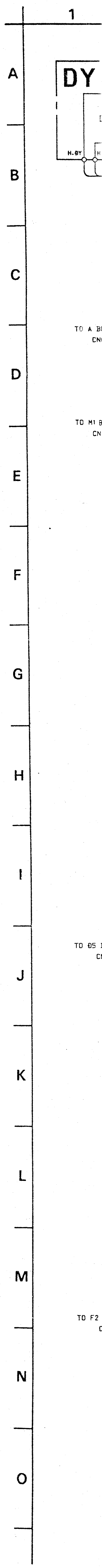
DIODE	
D001	G – 2
D2001	I – 5
D2002	J – 5
D2003	I – 6

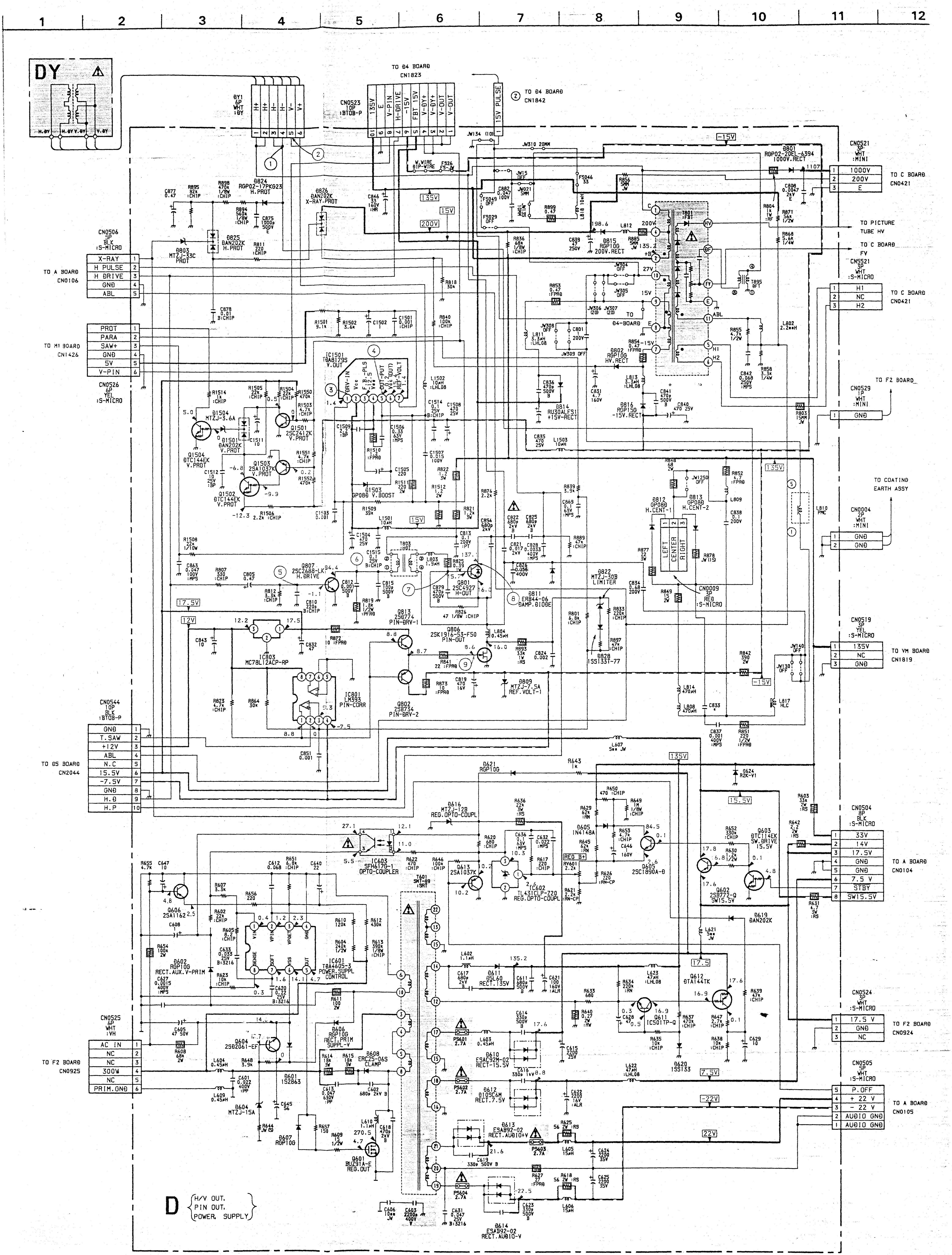
Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

- **WAVEFORMS D BOARD**


①
220 Vp-p (H)
②
2.8 Vp-p (V)
③
0.5 Vp-p (V)
④
60.0 Vp-p (V)
⑤
3.0 Vp-p (H)
⑥
175 Vp-p (H)
⑦
150 Vp-p (H)
⑧
950 Vp-p (H)
⑨
19.0 Vp-p (H)


1
A
B
C
D
E
F
G
H
I
J
K
L
M
N
O
DY
H.DY
TO A B
TO M1 B
TO 05
TO F2


1
2
3
4
5
6
7
8
9
10
11
12
DY
H.DY
H.DY V.DY
V.DY
DY1
6P
WHT
:DY
H+
H+
H-
H-
V-
V+
TO D4 BOARD
CN1823
CN0523
10P
:BTOB-P
135V
E
V-PIN
H-DRIVE
-15V
FBT 15V
V-DY+
V-DY+
V-OUT
V-OUT
15V PULSE
Z TO D4 BOARD
CN1842
CN0506
5P
BLK
:S-MICRO
X-RAY
H PULSE
H DRIVE
GND
ABL
TO A BOARD
CN0106
PROT
PARA
SAW+
GND
5V
V-PIN
TO M1 BOARD
CN1426
CN0526
6P
YEL
:S-MICRO
D824
RGP02-17PKG23
H.PROT
D826
DAN202K
X-RAY.PROT
D825
DAN202K
H.PROT
D803
MTZJ-33C
PROT
IC1501
TDA8179S
V.OUT
DRV-IN
Vcc
F.B.-PLS
Vcc (OUT)
OUT-PUT
REF-VOLT
D1504
MTZJ-3.6A
Q1504
DTC144EK
V.PROT
D1501
DAN202K
V.PROT
Q1501
2SC2412K
V.PROT
Q1503
2SA1037K
V.PROT
Q1502
DTC144EK
V.PROT
D1503
GP08D V.BOOST
CN0521
3P
WHT
:MINI
1000V
200V
E
TO C BOARD
CN0421
D801
RGP02-20EL-6394
1000V.RECT
T801
FBT
HV
TO PICTURE
TUBE HV
TO C BOARD
FV
CN5521
3P
WHT
:S-MICRO
H1
NC
H2
TO C BOARD
CN0421
D815
RGP10G
200V.RECT
D802
RGP10G
HV.RECT
D814
RU3OALFS1
+15V-RECT
D816
RGP15G
-15V.RECT
L802
2.2mH
TO F2 BOARD
CN0529
1P
WHT
:MINI
GND
TO COATING
EARTH ASSY
CN0004
2P
WHT
:MINI
GND
GND
D812
GP08D
H.CENT-1
D813
GP08D
H.CENT-2
LEFT
CENTER
RIGHT
CN0009
3P
RED
:S-MICRO
L810
PMC
Q807
2SC2688-LK
H.DRIVE
T803
Q801
2SC4927
H-OUT
D811
ERB44-06
DAMP.DIODE
D822
MTZJ-30B
LIMITER
D828
1SS133T-77
Q813
2SB774
PIN-DRV-1
Q806
2SK1916-S3-F50
PIN-OUT
IC803
MC78L12ACP-RP
IC801
LM393
PIN-CORR
Q802
2SB734
PIN-DRV-2
D809
MTZJ-7.5A
REF.VOLT-1
CN0519
3P
YEL
:S-MICRO
135V
NC
GND
TO VM BOARD
CN1819
L817
HLC
CN0544
10P
BLK
:BTOB-P
GND
T.SAW
+12V
ABL
N.C
15.5V
-7.5V
GND
H.D
H.P
TO D5 BOARD
CN2044
D621
RGP10G
D624
RZK-V1
D616
MTZJ-12B
REG.OPTO-COUPL
IC603
SFH617G-1
OPTO-COUPLER
D605
1N4148A
Q605
2SC1890A-D
Q613
2SA1037K
IC602
TL431CLP-Z20
REG.OPTO-COUPL
REG B+
Q603
DTC114EK
SW.DRIVE
15.5V
Q602
2SB772-Q
SW15.5V
CN0504
8P
BLK
:S-MICRO
33V
14V
17.5V
GND
GND
7.5 V
STBY
SW15.5V
TO A BOARD
CN0104
Q606
2SA1162
D602
RGP10G
RECT.AUX.V-PRIM
IC601
TDA4605-3
POWER.SUPPL
CONTROL
VIN
VPIN
VPDET
GND
SENSE
SOFT
VSS
OUT
T601
SRT
D611
D5L60
RECT.135V
D619
DAN202K
Q612
DTA144TK
Q611
IC501TP-Q
D620
1SS133
CN0525
6P
WHT
:VH
AC IN
NC
NC
300V
NC
PRIM.GND
TO F2 BOARD
CN0925
Q604
2SD2061-EF
D606
RGP10G
RECT.PRIM
SUPPL-V
D608
ERC25-06S
CLAMP
D601
1S2863
D604
MTZJ-15A
D607
RGP10G
Q601
BUZ91A-E
REG.OUT
PS601
2.7A
D610
ESAC92M-02
RECT-15.5V
PS602
2.7A
D612
D10SC6M
RECT.7.5V
D613
ESAB92-02
RECT.AUDIO+V
PS603
2.7A
PS604
2.7A
D614
ESAB92-02
RECT.AUDIO-V
CN0524
3P
WHT
:S-MICRO
17.5 V
GND
NC
TO F2 BOARD
CN0924
CN0505
5P
WHT
:S-MICRO
P.OFF
+ 22 V
- 22 V
AUDIO GND
AUDIO GND
TO A BOARD
CN0105
-15V
135V
15V
200V
17.5V
12V
135V
15.5V
17.5
7.5V
-22V
22V
D
H/V OUT,
PIN OUT,
POWER SUPPLY
B-SS4536<AEP>-0..

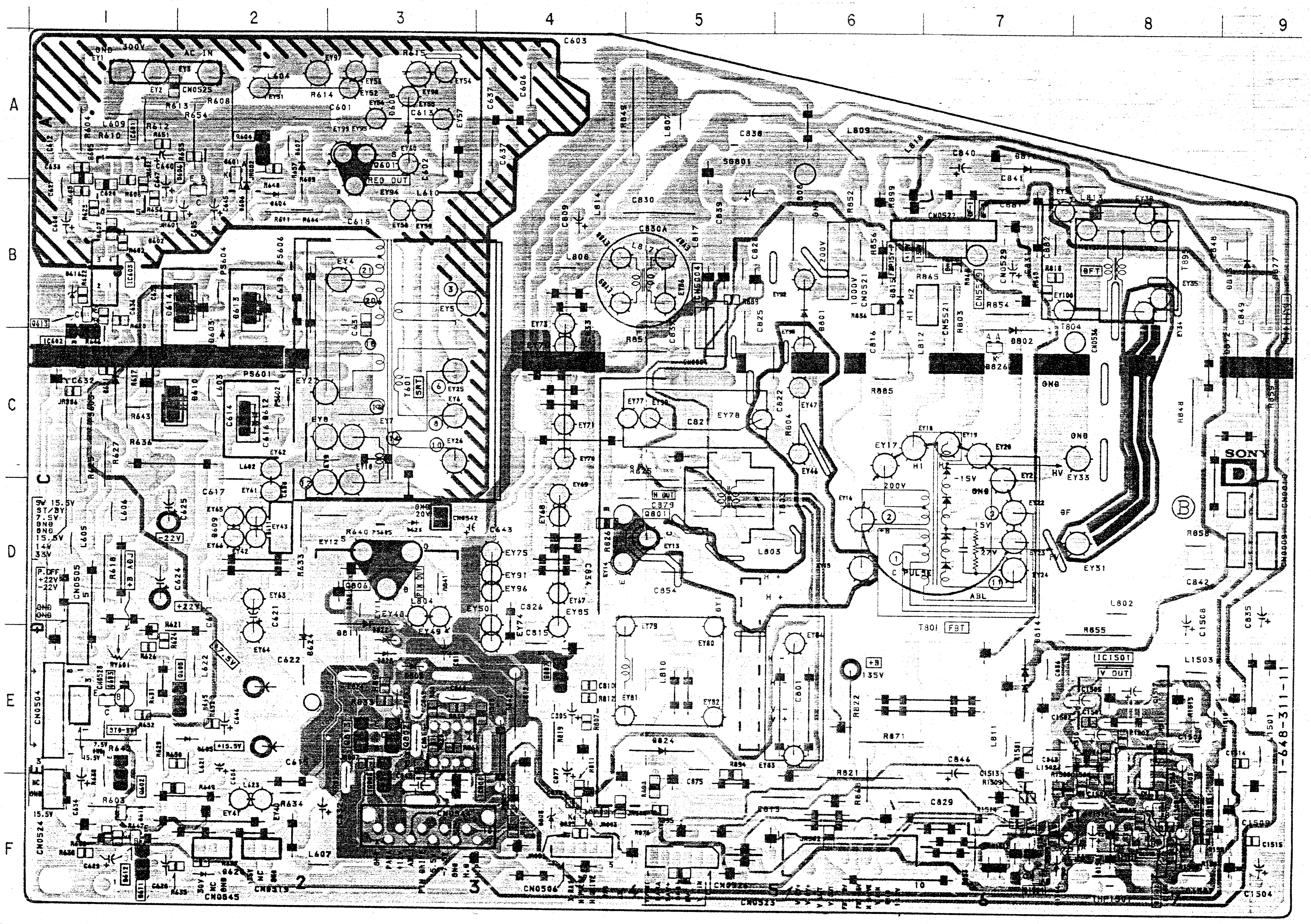
71

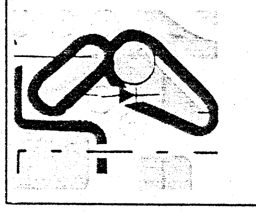
0 —

Note :

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

– D BOARD –


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
SONY
1-648-311-11
RED OUT
H OUT
PULSE
FBT
V OUT
IC1501
200V
135V
-15V
+15V
+22V
-22V



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

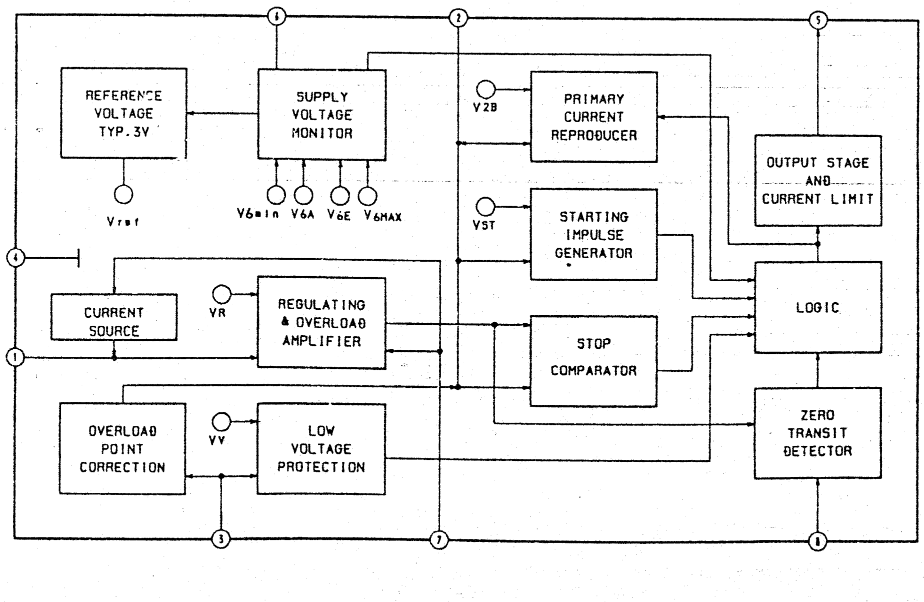
IC	
IC601	A - 1
IC602	C - 1
IC603	B - 1
IC801	E - 3
IC803	F - 3
IC1501	E - 8

TRANSISTOR	
Q601	A - 3
Q602	F - 1
Q603	E - 1
Q604	A - 2
Q605	E - 2
Q606	B - 2
Q611	F - 1
Q612	F - 1
Q613	B - 1
Q801	D - 5
Q802	E - 3
Q806	D - 3
Q807	E - 4
Q813	E - 3
Q1501	F - 8
Q1502	F - 8
Q1503	F - 8
Q1504	F - 7

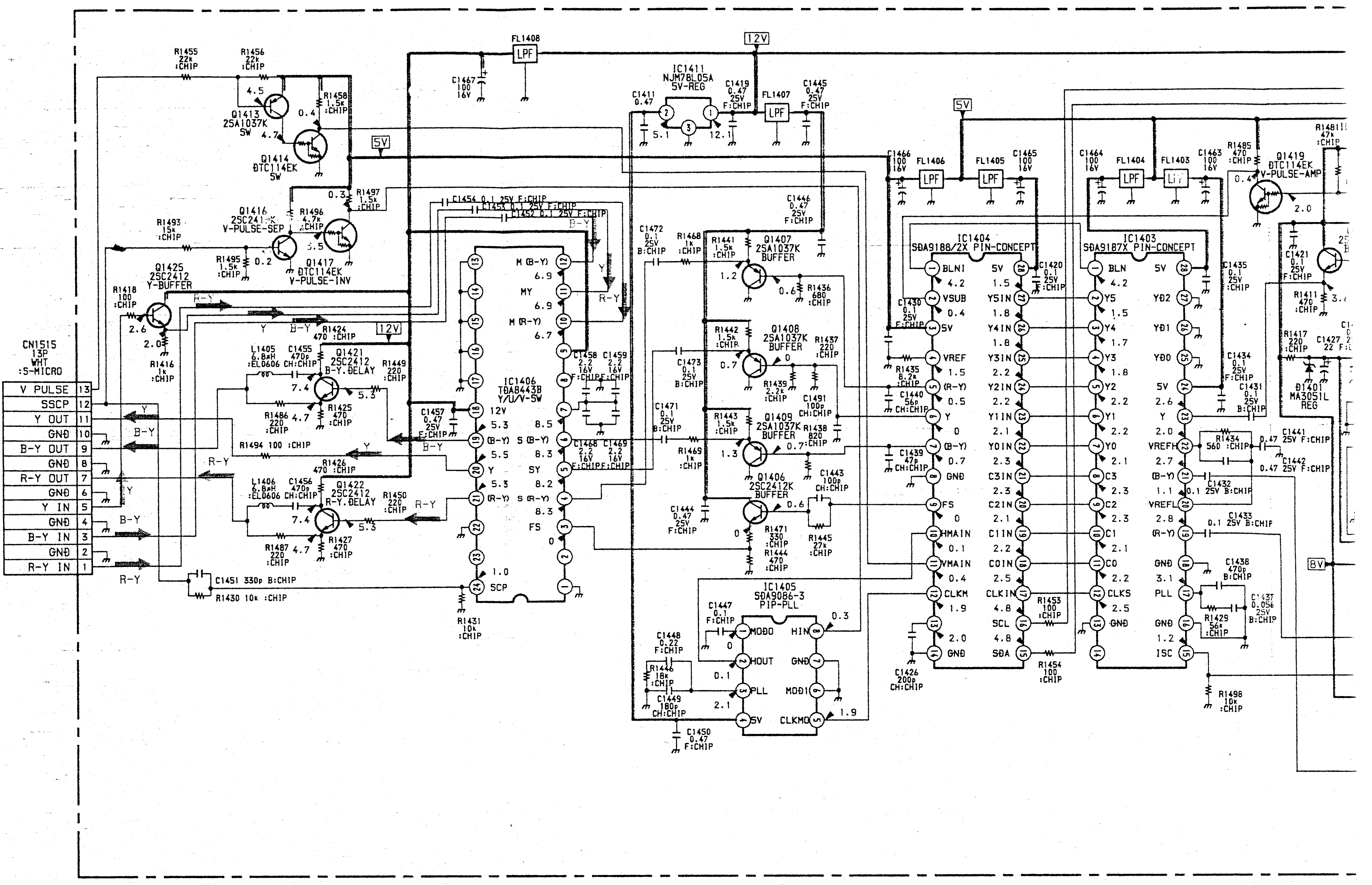
DIODE	
D601	A - 2
D602	B - 1
D604	B - 2
D605	E - 2
D606	B - 2
D607	A - 2
D608	A - 3
D610	C - 2
D611	D - 2
D612	C - 2
D613	B - 2
D614	B - 2
D616	B - 1
D619	F - 1
D620	F - 2
D621	C - 1
D624	E - 2
D801	B - 6
D802	B - 7
D803	F - 4
D809	E - 3
D811	D - 3
D812	C - 9
D813	B - 9
D814	E - 7
D815	B - 6
D816	A - 7
D822	E - 3
D824	E - 5
D825	F - 4
D826	C - 7
D828	E - 3
D1501	F - 8
D1503	F - 8
D1504	F - 7

VARIABLE RESISTOR	
RV601	E - 1

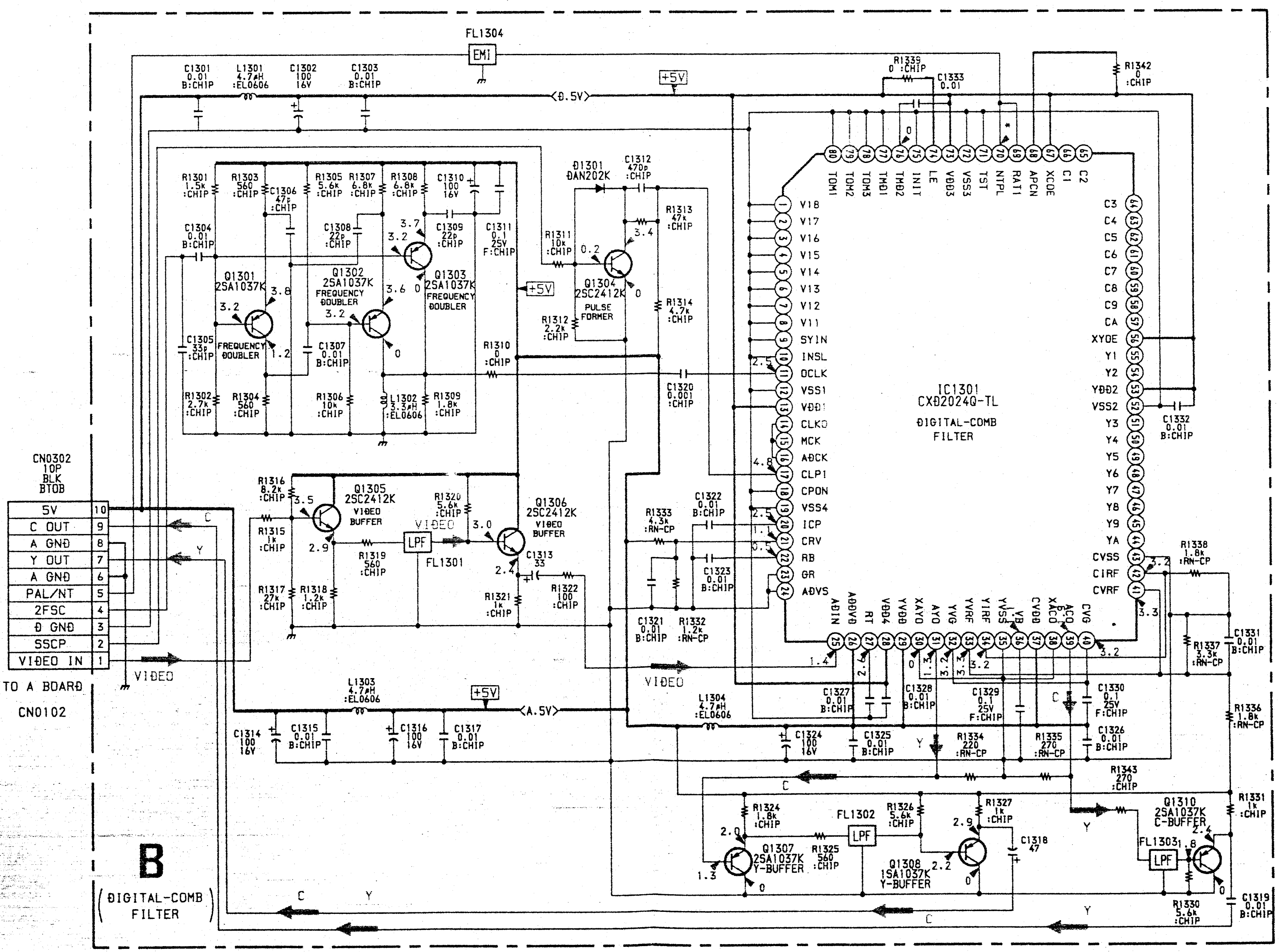
• D BOARD IC601 TDA4605-3


REFERENCE VOLTAGE TYP. 3V
Vref
SUPPLY VOLTAGE MONITOR
V6min
V6A
V6E
V6MAX
V2B
PRIMARY CURRENT REPRODUCER
V3T
STARTING IMPULSE GENERATOR
OUTPUT STAGE AND CURRENT LIMIT
CURRENT SOURCE
VR
REGULATING & OVERLOAD AMPLIFIER
LOGIC
STOP COMPARATOR
OVERLOAD POINT CORRECTION
VV
LOW VOLTAGE PROTECTION
ZERO TRANSIT DETECTOR
1
2
3
4
5
6
7
8
9

(French Model only)


TO A BOARD CN0115
CN1515 13P WHT :S-MICRO
V PULSE 13
SSCP 12
Y OUT 11
GND 10
B-Y OUT 9
GND 8
R-Y OUT 7
GND 6
Y IN 5
GND 4
B-Y IN 3
GND 2
R-Y IN 1
Q1413 2SA1037K SW
Q1414 DTC114EK SW
Q1416 2SC2412K V-PULSE-SEP
Q1417 DTC114EK V-PULSE-INV
Q1425 2SC2412 Y-BUFFER
Q1421 2SC2412 B-Y.DELAY
Q1422 2SC2412 R-Y.DELAY
IC1406 TDA8443B Y/U/V-SW
IC1411 NJM78L05A 5V-REG
FL1408 LPF
FL1407 LPF
FL1406 LPF
FL1405 LPF
FL1404 LPF
FL1403 LPF
12V
5V
Q1407 2SA1037K BUFFER
Q1408 2SA1037K BUFFER
Q1409 2SA1037K BUFFER
Q1406 2SC2412K BUFFER
IC1405 SDA9086-3 PIP-PLL
IC1404 SDA9188/2X PIP-CONCEPT
IC1403 SDA9187X PIP-CONCEPT
Q1419 DTC114EK V-PULSE-AMP
D1401 MA3051L REG
8V

(Except for French Model)

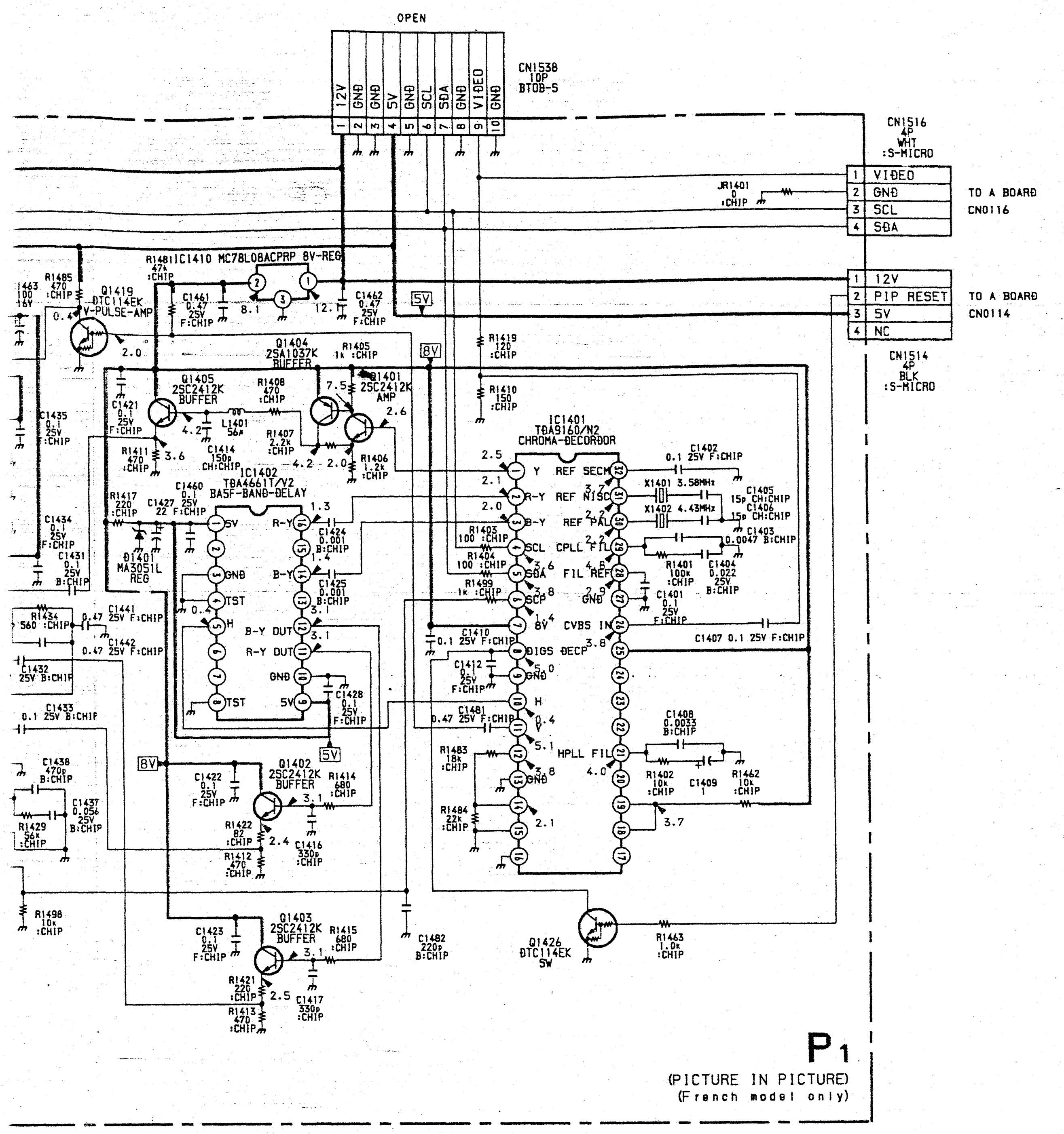

FL1304 EMI
+5V
(D.5V)
(A.5V)
CN0302 10P BLK BTOB
5V 10
C OUT 9
A GND 8
Y OUT 7
A GND 6
PAL/NT 5
2FSC 4
D GND 3
SSCP 2
VIDEO IN 1
TO A BOARD CN0102
Q1301 2SA1037K FREQUENCY DOUBLER
Q1302 2SA1037K FREQUENCY DOUBLER
Q1303 2SA1037K FREQUENCY DOUBLER
D1301 DAN202K
Q1304 2SC2412K PULSE FORMER
Q1305 2SC2412K VIDEO BUFFER
Q1306 2SC2412K VIDEO BUFFER
FL1301 LPF
IC1301 CXD2024Q-TL DIGITAL-COMB FILTER
FL1302 LPF
FL1303 LPF
Q1307 2SA1037K Y-BUFFER
Q1308 1SA1037K Y-BUFFER
Q1310 2SA1037K C-BUFFER
VIDEO
B
(DIGITAL-COMB FILTER)
B-SS4536<AEP>-B..

As to the voltage value the mark ※ on the Sch Diagram, see the anothe

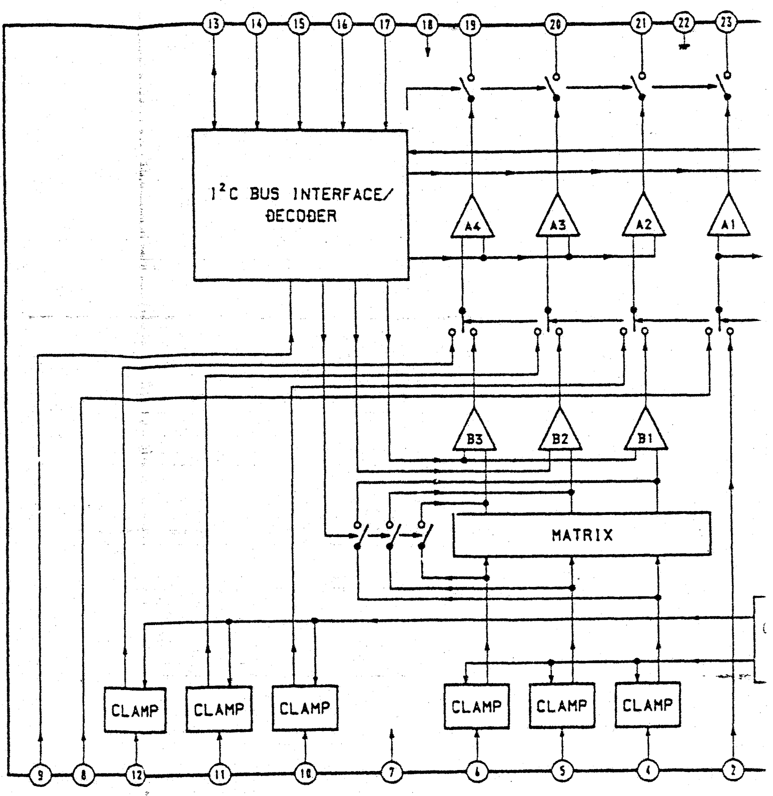
B BOARD

	PAL	SE
IC1301 ⑥⑨	5.5	5
⑦⑩	5.5	5

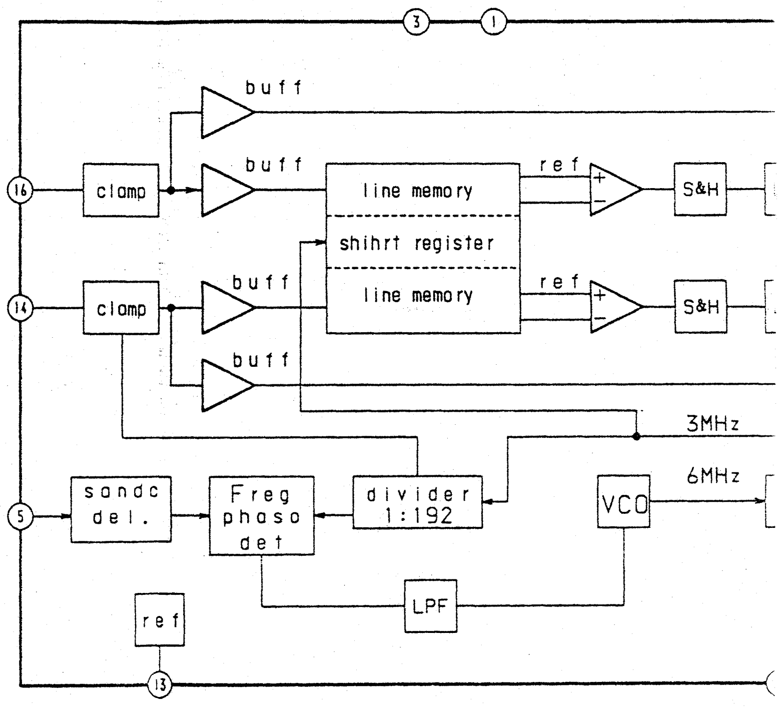
11 12 13 14 15 16 17 18 19 20 21 22


OPEN
CN1538 10P BTOB-S
12V
GND
GND
5V
GND
SCL
SDA
GND
VIDEO
GND
CN1516 4P WHT :S-MICRO
VIDEO
GND
SCL
SDA
TO A BOARD CN0116
JR1401 0 :CHIP
12V
PIP RESET
5V
NC
TO A BOARD CN0114
CN1514 4P BLK :S-MICRO
R1481 IC1410 MC78L08ACPRP 8V-REG
Q1419 DTC114EK V-PULSE-AMP
C1461 0.47 25V F:CHIP
C1462 0.47 25V F:CHIP
Q1404 2SA1037K BUFFER
R1405 1k :CHIP
Q1405 2SC2412K BUFFER
R1408 470 :CHIP
Q1401 2SC2412K AMP
R1419 120 :CHIP
R1410 150 :CHIP
IC1401 TDA9160/N2 CHROMA-DECORDOR
L1401 56μ
C1414 150p CH:CHIP
R1407 2.2k :CHIP
R1406 1.2k :CHIP
IC1402 TDA4661T/V2 BASE-BAND-DELAY
C1460 0.1
C1427 22 25V F:CHIP
D1401 MA3051L REG
R1417 220 :CHIP
R1411 470 :CHIP
C1421 0.1 25V F:CHIP
C1435 0.1 25V F:CHIP
C1434 0.1 25V F:CHIP
C1431 0.1 25V B:CHIP
R1434 560 :CHIP
C1441 0.47 25V F:CHIP
C1442 0.47 25V F:CHIP
C1432 25V B:CHIP
C1433 0.1 25V B:CHIP
C1438 470p B:CHIP
C1437 0.056 25V B:CHIP
R1429 56k :CHIP
R1498 10k :CHIP
C1424 0.001 B:CHIP
C1425 0.001 B:CHIP
C1428 0.1 25V F:CHIP
Q1402 2SC2412K BUFFER
C1422 0.1 25V F:CHIP
R1414 680 :CHIP
R1422 82 :CHIP
R1412 470 :CHIP
C1416 330p :CHIP
Q1403 2SC2412K BUFFER
C1423 0.1 25V F:CHIP
R1415 680 :CHIP
R1421 220 :CHIP
R1413 470 :CHIP
C1417 330p :CHIP
C1482 220p B:CHIP
Q1426 DTC114EK SW
R1463 1.0k :CHIP
C1402 0.1 25V F:CHIP
X1401 3.58MHz
X1402 4.43MHz
C1405 15p CH:CHIP
C1406 15p CH:CHIP
C1403 0.0047 B:CHIP
R1401 100k :CHIP
C1404 0.022 25V B:CHIP
C1401 0.1 25V F:CHIP
C1407 0.1 25V F:CHIP
R1403 100 :CHIP
R1404 100 :CHIP
R1499 1k :CHIP
C1410 0.1 25V F:CHIP
C1412 0.1 25V F:CHIP
C1481 0.47 25V F:CHIP
R1483 18k :CHIP
R1484 22k :CHIP
C1408 0.0033 B:CHIP
R1402 10k :CHIP
C1409 1
R1462 10k :CHIP
Y
R-Y
B-Y
SCL
SDA
SCP
8V
DIGS
GND
H
REF SECM
REF NTSC
REF PAL
CPLL FIL
FIL REF
GND
CVBS IN
DECP
HPLL FIL
5V
GND
TST
H
B-Y OUT
R-Y OUT
GND
TST
5V
R-Y
B-Y
8V
5V
P1
(PICTURE IN PICTURE)
(French model only)
B-SS4536<AEP>-P1.

• P1 BOARD IC1406 TDA8443B


13
14
15
16
17
18
19
20
21
22
23
I²C BUS INTERFACE/ DECODER
A4
A3
A2
A1
B3
B2
B1
MATRIX
CLAMP
CLAMP
CLAMP
CLAMP
CLAMP
CLAMP
9
8
12
11
10
7
6
5
4
2

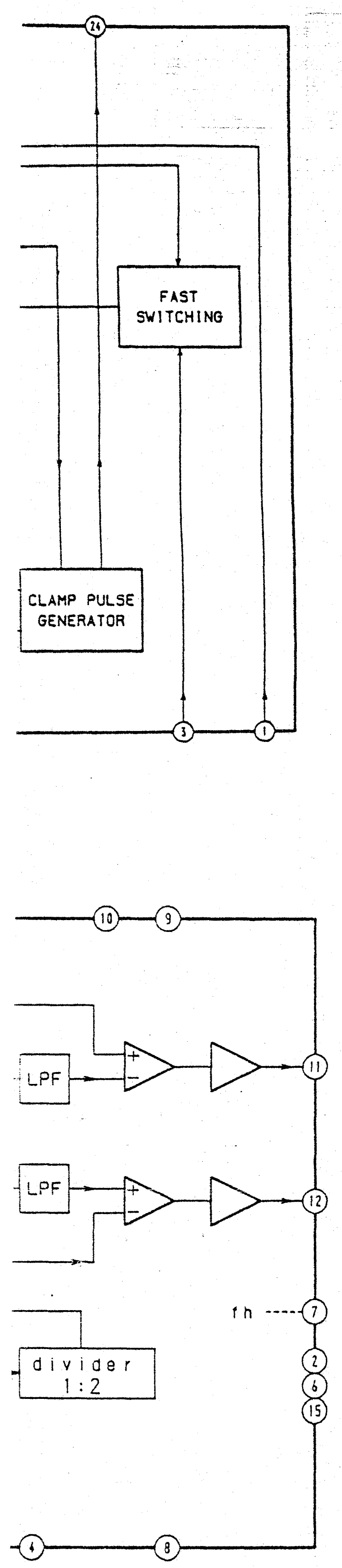
• P1 BOARD IC1402 TDA4661T/V2

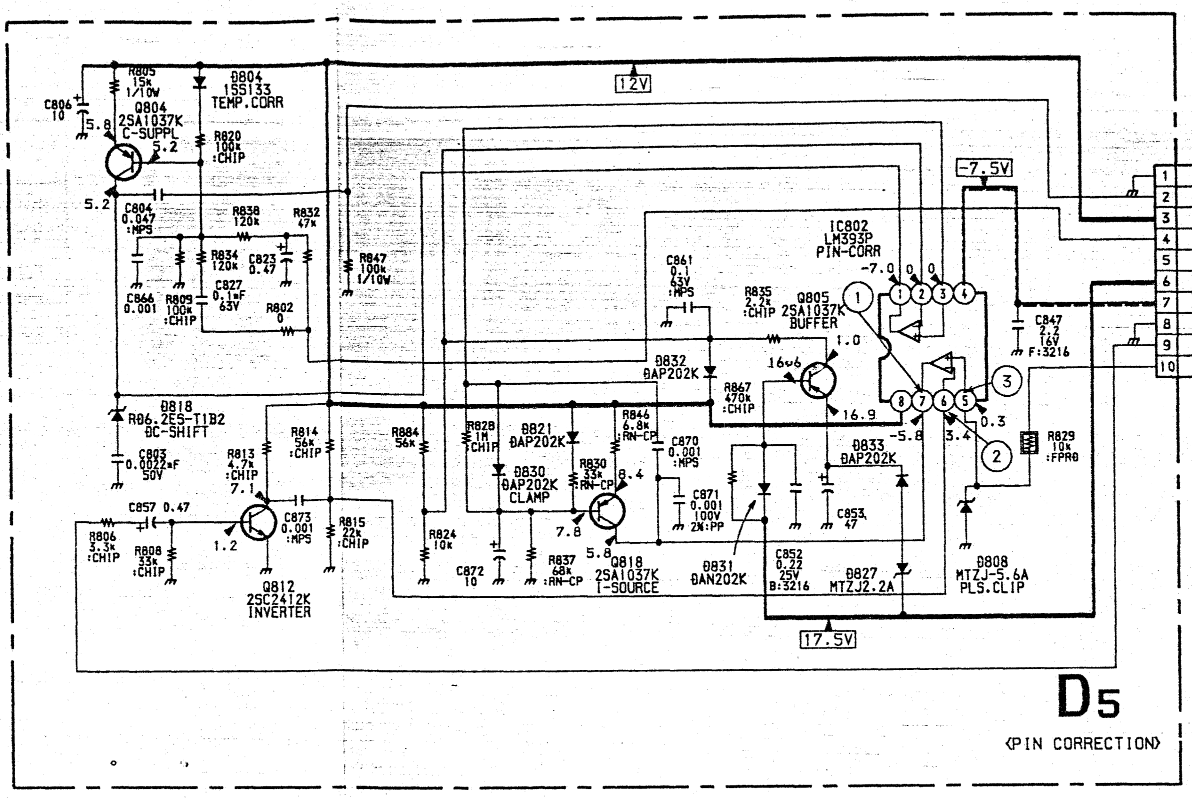

3
1
16
14
5
13
clamp
clamp
buff
buff
buff
buff
line memory
shihrt register
line memory
ref
ref
S&H
S&H
3MHz
6MHz
sandc del.
Freg phaso det
divider 1:192
VCO
LPF
ref

› the voltage volue shown by
nark ※ on the Schematic
am, see the another list.

›ARD

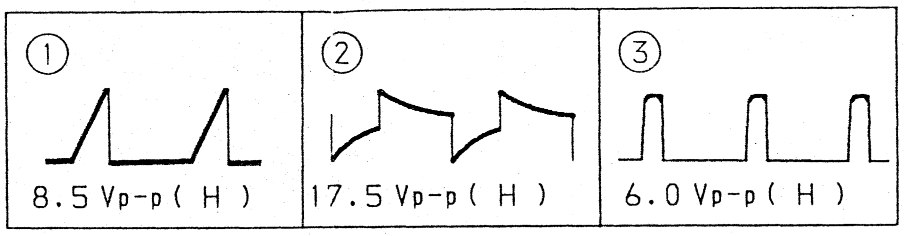
	PAL	SECAM	NTSC3.58	NTSC4.43
›1 (69)	5.5	5.5	0.1	0.1
(70)	5.5	5.5	0.1	0.1

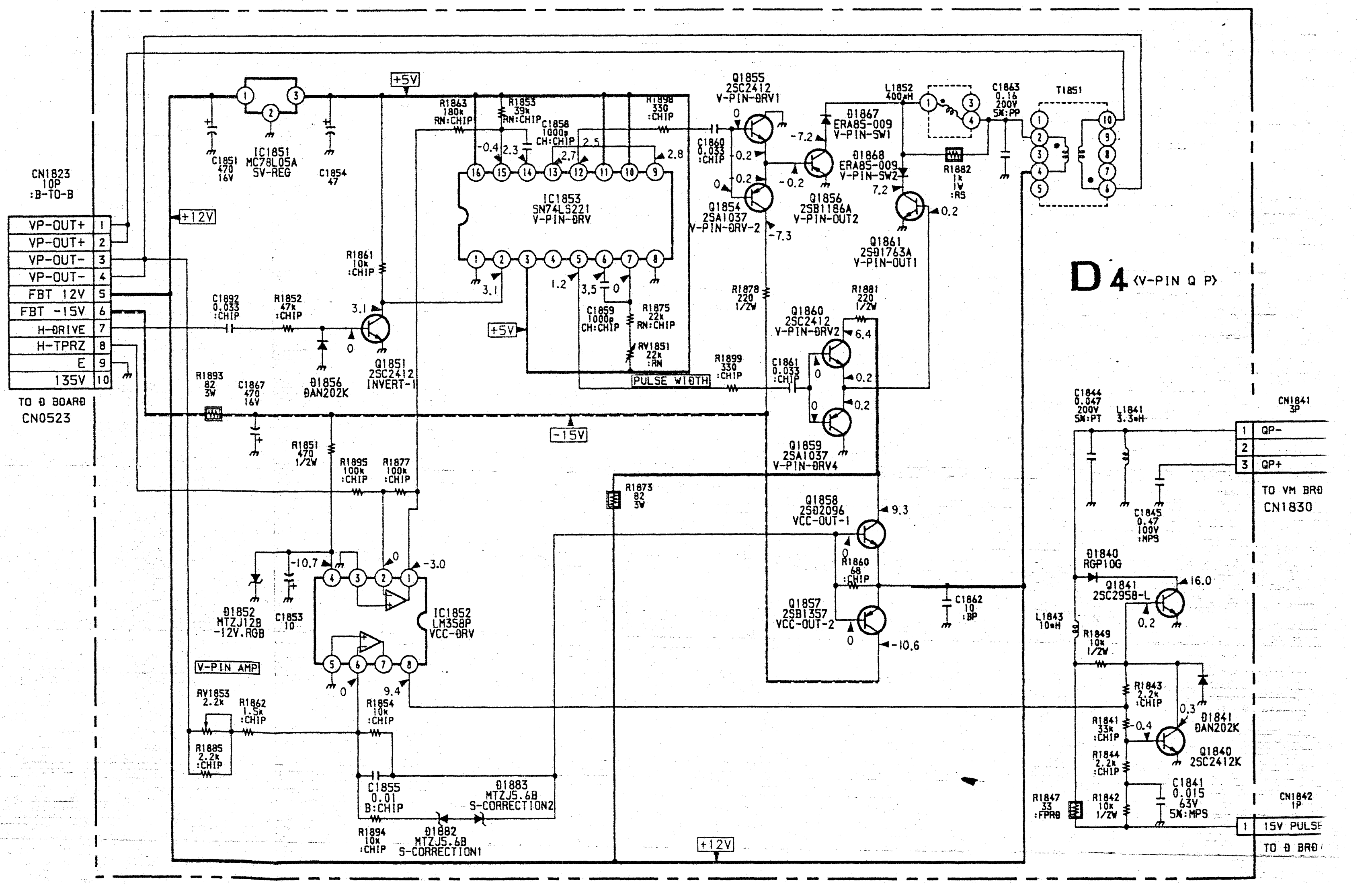

FAST SWITCHING
CLAMP PULSE GENERATOR
LPF
LPF
fh
divider 1:2
24
3
1
10
9
11
12
7
2
6
15
4
8


12V
-7.5V
17.5V
CN2044 10P BLK :BTOB
1 GND
2 T.SAW
3 +12V
4 ABL
5 N.C
6 15.5V
7 -7.5V
8 GND
9 H.D
10 H.P
TO D BOARD CN0544
Q804 2SA1037K C-SUPPL
D804 1SS133 TEMP.CORR
IC802 LM393P PIN-CORR
Q805 2SA1037K BUFFER
D818 RD6.2ES-T1B2 DC-SHIFT
Q812 2SC2412K INVERTER
D821 DAP202K
D830 DAP202K CLAMP
Q818 2SA1037K I-SOURCE
D831 DAN202K
D832 DAP202K
D833 DAP202K
D827 MTZJ2.2A
D808 MTZJ-5.6A PLS.CLIP
D5
(PIN CORRECTION)

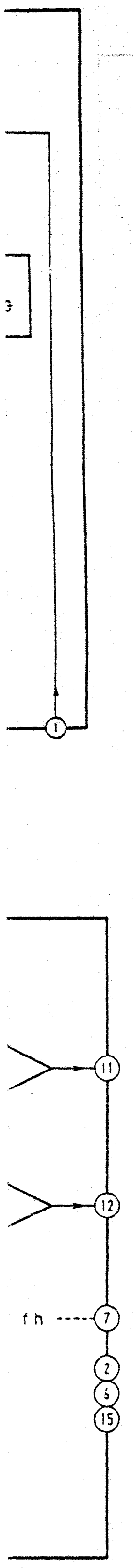
B-SS4536<AEP>-05.

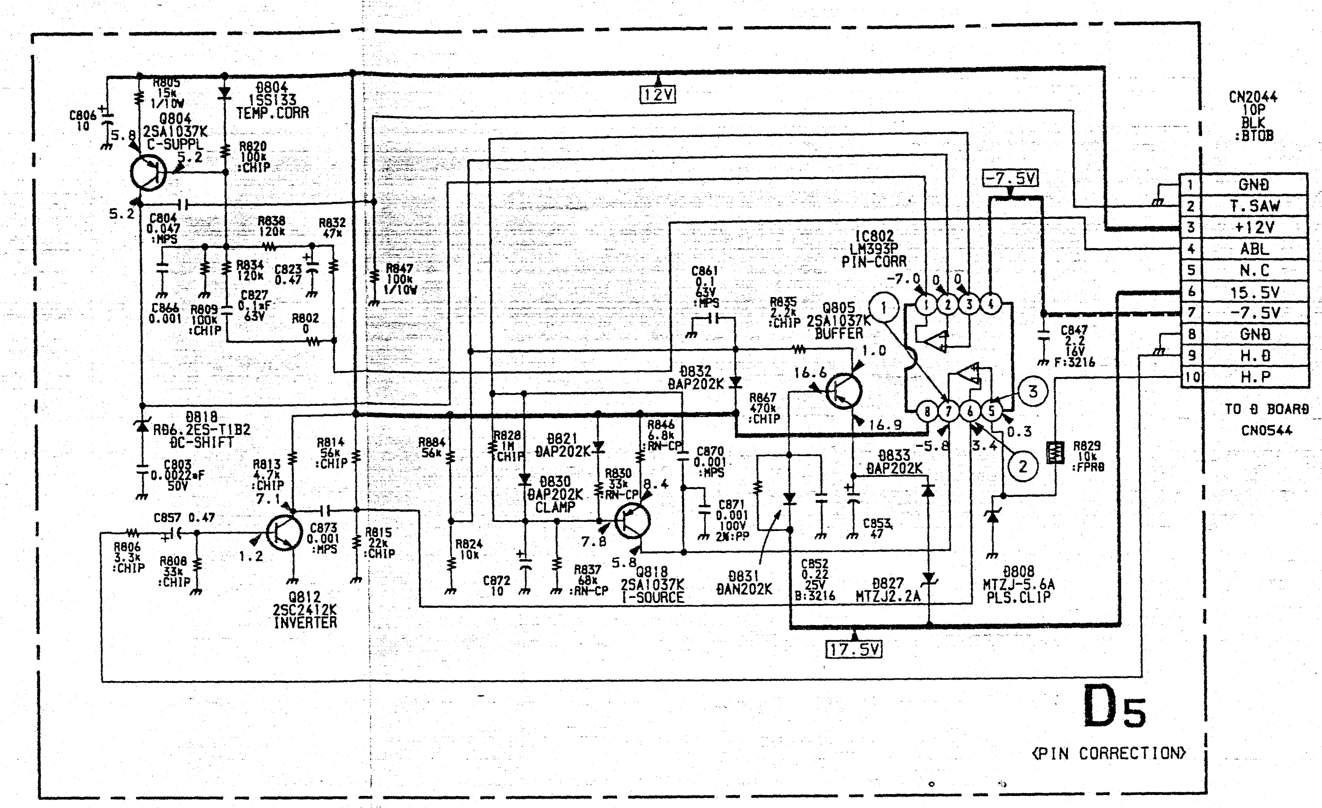
• WAVEFORMS D5 BOARD




CN1823 10P :B-TO-B
VP-OUT+ 1
VP-OUT+ 2
VP-OUT- 3
VP-OUT- 4
FBT 12V 5
FBT -15V 6
H-DRIVE 7
H-TPRZ 8
E 9
135V 10
TO D BOARD CN0523
+5V
+12V
-15V
IC1851 MC78L05A 5V-REG
IC1853 SN74LS221 V-PIN-DRV
PULSE WIDTH
Q1851 2SC2412 INVERT-1
D1856 DAN202K
Q1855 2SC2412 V-PIN-DRV1
Q1854 2SA1037 V-PIN-DRV-2
D1867 ERA85-009 V-PIN-SW1
D1868 ERA85-009 V-PIN-SW2
Q1856 2SB1186A V-PIN-OUT2
Q1861 2SD1763A V-PIN-OUT1
L1852 400μH
T1851
Q1860 2SC2412 V-PIN-DRV2
Q1859 2SA1037 V-PIN-DRV4
Q1858 2SD2096 VCC-OUT-1
Q1857 2SB1357 VCC-OUT-2
IC1852 LM358P VCC-DRV
V-PIN AMP
D1852 MTZJ12B -12V.REG
D1883 MTZJ5.6B S-CORRECTION2
D1882 MTZJ5.6B S-CORRECTION1
D4 (V-PIN Q P)
CN1841 3P
1 QP-
2
3 QP+
TO VM BRD CN1830
D1840 RGP10G
Q1841 2SC2958-L
D1841 DAN202K
Q1840 2SC2412K
CN1842 1P
1 15V PULSE
TO D BRD

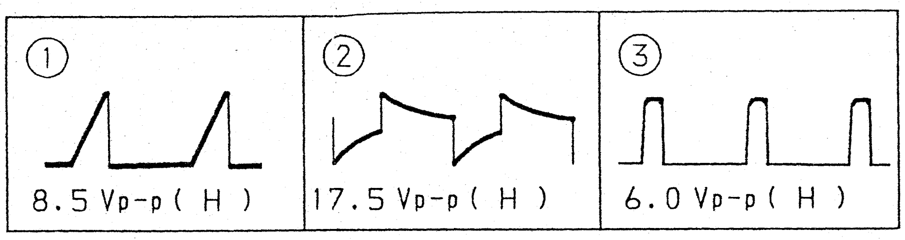
B-SS4536<AEP>-04.

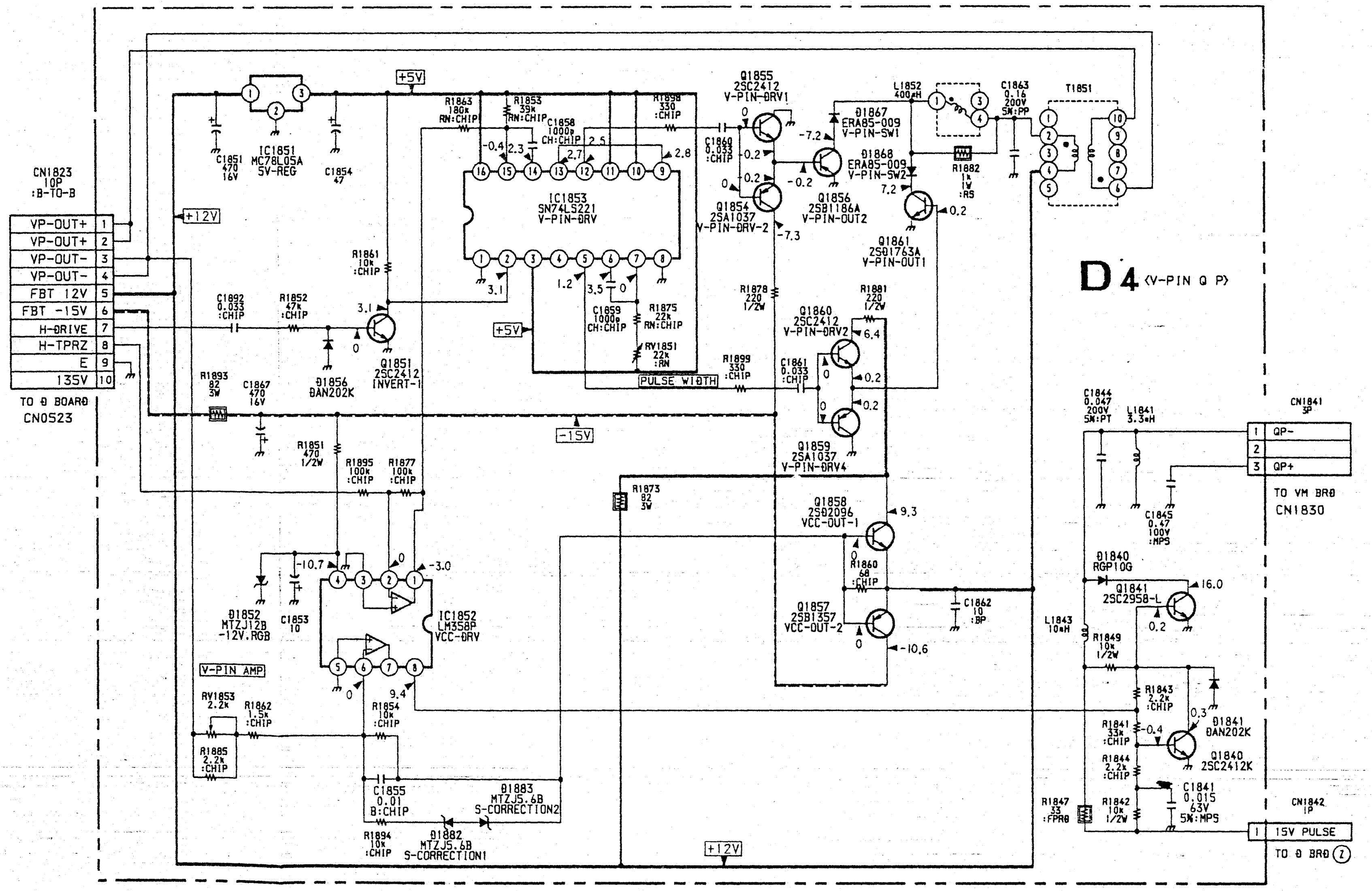



D5
〈PIN CORRECTION〉
CN2044 10P BLK :BTOB
1 GND
2 T.SAW
3 +12V
4 ABL
5 N.C
6 15.5V
7 -7.5V
8 GND
9 H.D
10 H.P
TO D BOARD CN0544
12V
-7.5V
17.5V
IC802 LM393P PIN-CORR
Q805 2SA1037K BUFFER
Q804 2SA1037K C-SUPPL
D804 1SS133 TEMP.CORR
D818 RD6.2ES-T1B2 DC-SHIFT
Q812 2SC2412K INVERTER
Q818 2SA1037K I-SOURCE
D830 DAP202K CLAMP
D821 DAP202K
D832 DAP202K
D833 DAP202K
D831 DAN202K
D827 MTZJ2.2A
D808 MTZJ-5.6A PLS.CLIP

B-SS4536<AEP>-D5.

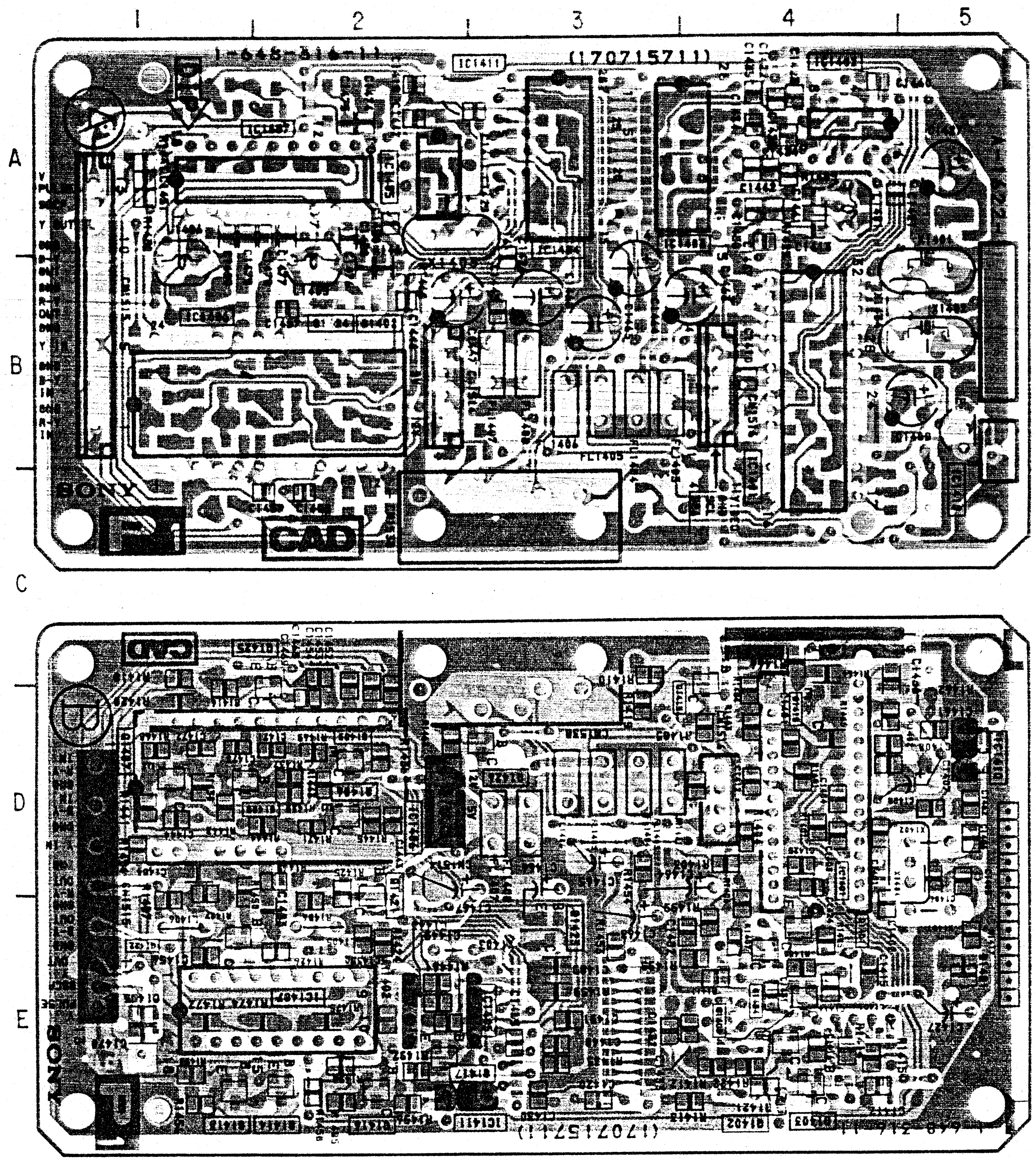
• WAVEFORMS D5 BOARD


①
8.5 Vp-p (H)
②
17.5 Vp-p (H)
③
6.0 Vp-p (H)


D4 〈V-PIN Q P〉
CN1823 10P :B-TO-B
1 VP-OUT+
2 VP-OUT+
3 VP-OUT-
4 VP-OUT-
5 FBT 12V
6 FBT -15V
7 H-DRIVE
8 H-TPRZ
9 E
10 135V
TO D BOARD CN0523
+5V
+12V
-15V
IC1851 MC78L05A 5V-REG
IC1853 SN74LS221 V-PIN-DRV
PULSE WIDTH
Q1851 2SC2412 INVERT-1
D1856 DAN202K
IC1852 LM358P VCC-DRV
V-PIN AMP
D1852 MTZJ12B -12V.RGB
D1883 MTZJ5.6B S-CORRECTION2
D1882 MTZJ5.6B S-CORRECTION1
Q1855 2SC2412 V-PIN-DRV1
Q1854 2SA1037 V-PIN-DRV-2
D1867 ERA85-009 V-PIN-SW1
D1868 ERA85-009 V-PIN-SW2
Q1856 2SB1186A V-PIN-OUT2
Q1861 2SD1763A V-PIN-OUT1
Q1860 2SC2412 V-PIN-DRV2
Q1859 2SA1037 V-PIN-DRV4
Q1858 2SD2096 VCC-OUT-1
Q1857 2SB1357 VCC-OUT-2
L1852 400μH
T1851
CN1841 3P
1 QP-
2
3 QP+
TO VM BRD CN1830
D1840 RGP10G
Q1841 2SC2958-L
D1841 DAN202K
Q1840 2SC2412K
CN1842 1P
1 15V PULSE
TO D BRD ②

B-SS4536<AEP>-D4.

– P1 BOARD – (French Model only)

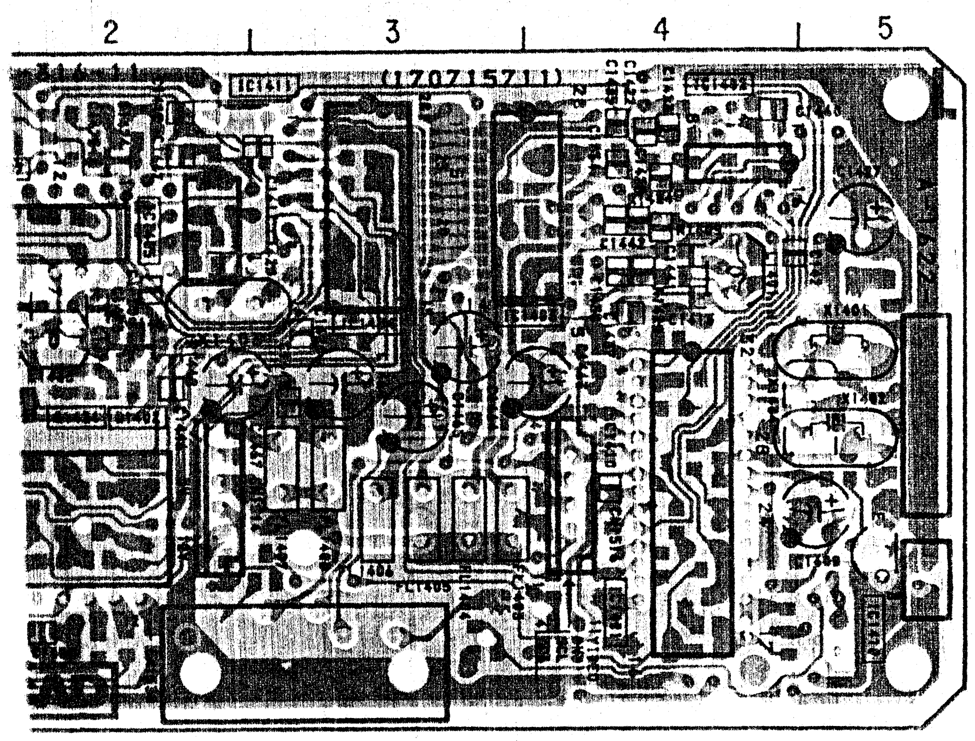

1
2
3
4
5
A
B
C
D
E
1-648-316-11
(1707157 11)
SONY
CAD

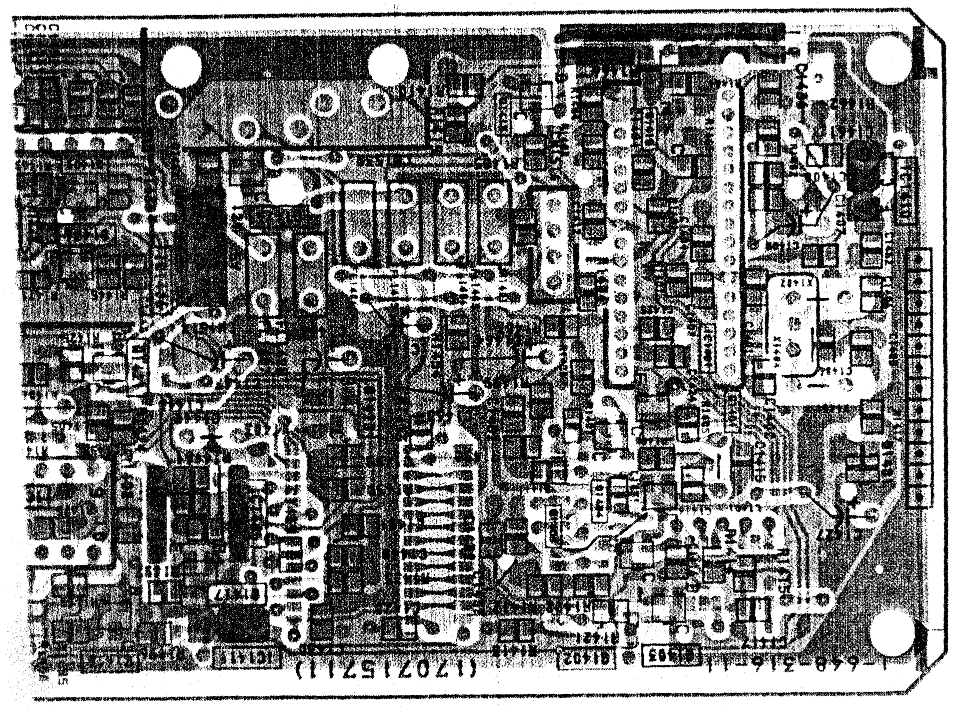
Note :

- : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

CTURE] **B** [DIGITAL - COMB FILTER] **D5** [PIN CORRECTION] **D4** [V - PIN Q P]

Model only)


2
3
4
5
(1707157 11)
CAD


(1207157 11)
1-648-912-11

IC	
IC1401	B - 4, D - 4
IC1402	A - 4
IC1403	A - 3
IC1404	A - 3
IC1405	A - 2, E - 2
IC1406	B - 1, D - 2
IC1410	B - 5, D - 5
IC1411	A - 2, E - 2

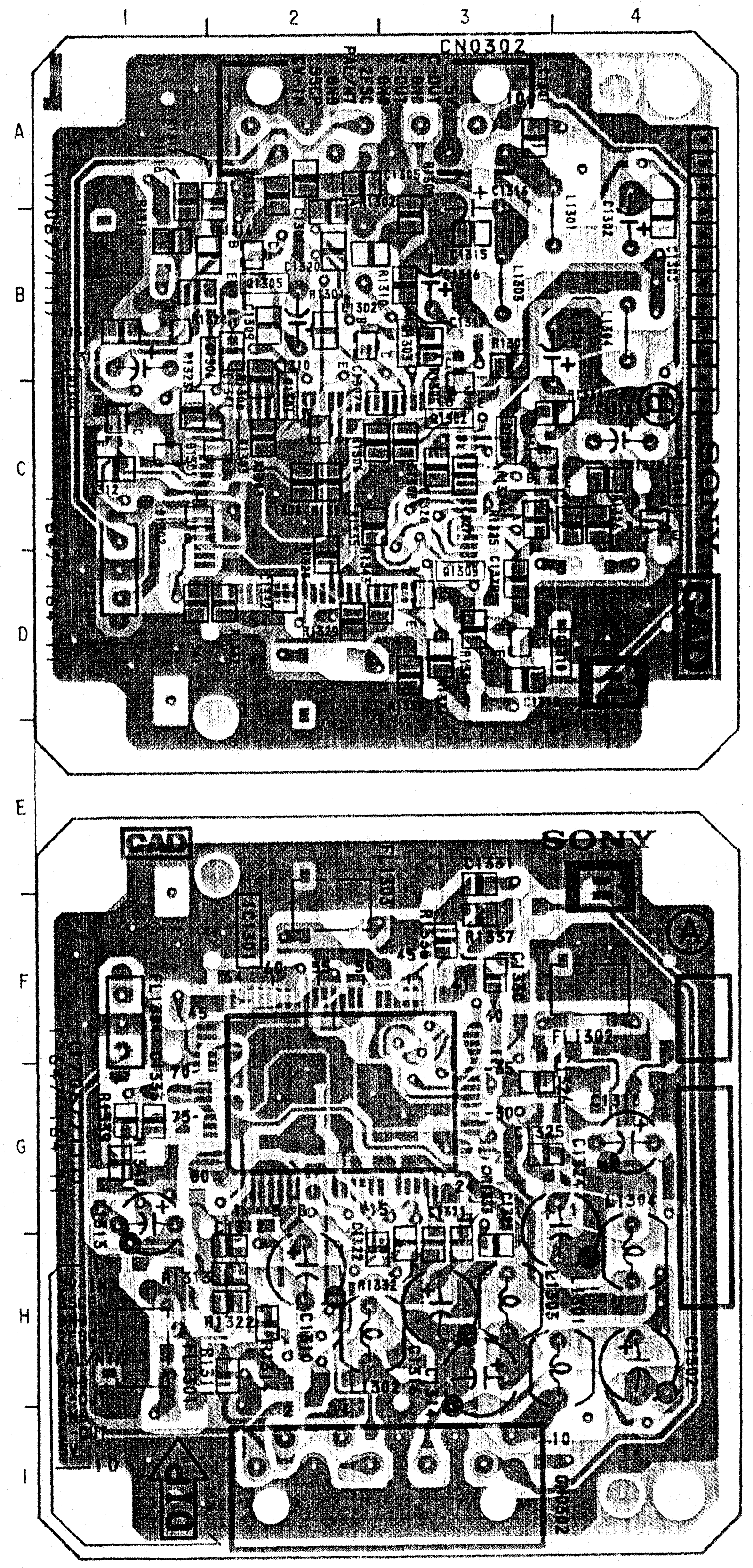
TRANSISTOR	
Q1401	E - 4
Q1402	E - 4
Q1403	E - 4
Q1404	E - 4
Q1405	E - 4
Q1406	D - 2
Q1407	D - 1
Q1408	D - 1
Q1409	D - 2
Q1413	E - 1
Q1414	E - 2
Q1416	E - 2
Q1417	E - 2
Q1419	D - 4
Q1421	E - 2
Q1422	E - 1
Q1425	D - 2
Q1426	D - 3

DIODE	
D1401	E - 5

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

- B BOARD - (Except for French Model)


1
2
3
4
A
B
C
D
E
F
G
H
I
CN0302
SONY
CAD
B
FL1302
D1

IC	
IC1301	G - 2

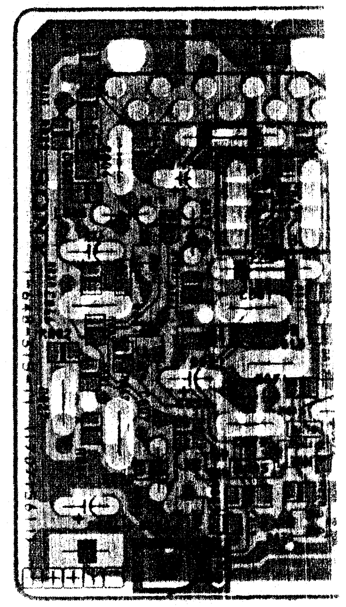
TRANSISTOR	
Q1301	C - 2
Q1302	B - 3
Q1303	B - 2
Q1304	C - 1
Q1305	B - 2
Q1306	B - 1
Q1307	C - 3
Q1308	C - 4
Q1310	D - 3

DIODE	
D1301	C - 1

Note :

- ▨ : Pattern from the side which enables seeing.
- ▨ : Pattern of the rear side.

- D5 BOARD -

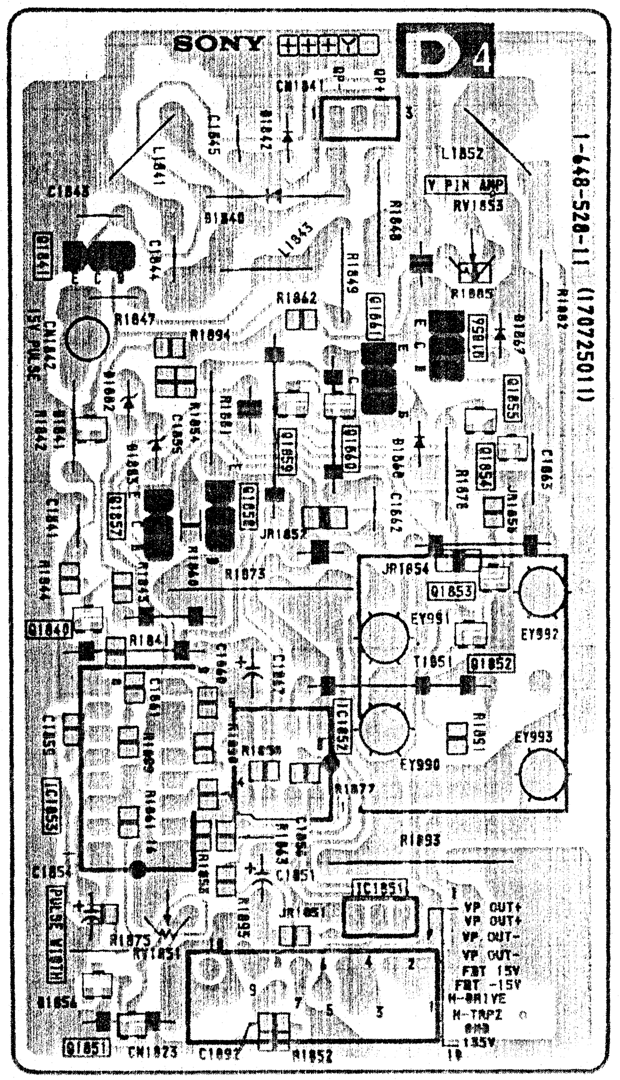


Note :

- ▨ : Pattern from the side w
- ▨ : Pattern of the rear side.

he side which enables seeing.
rear side.

– D4 BOARD –

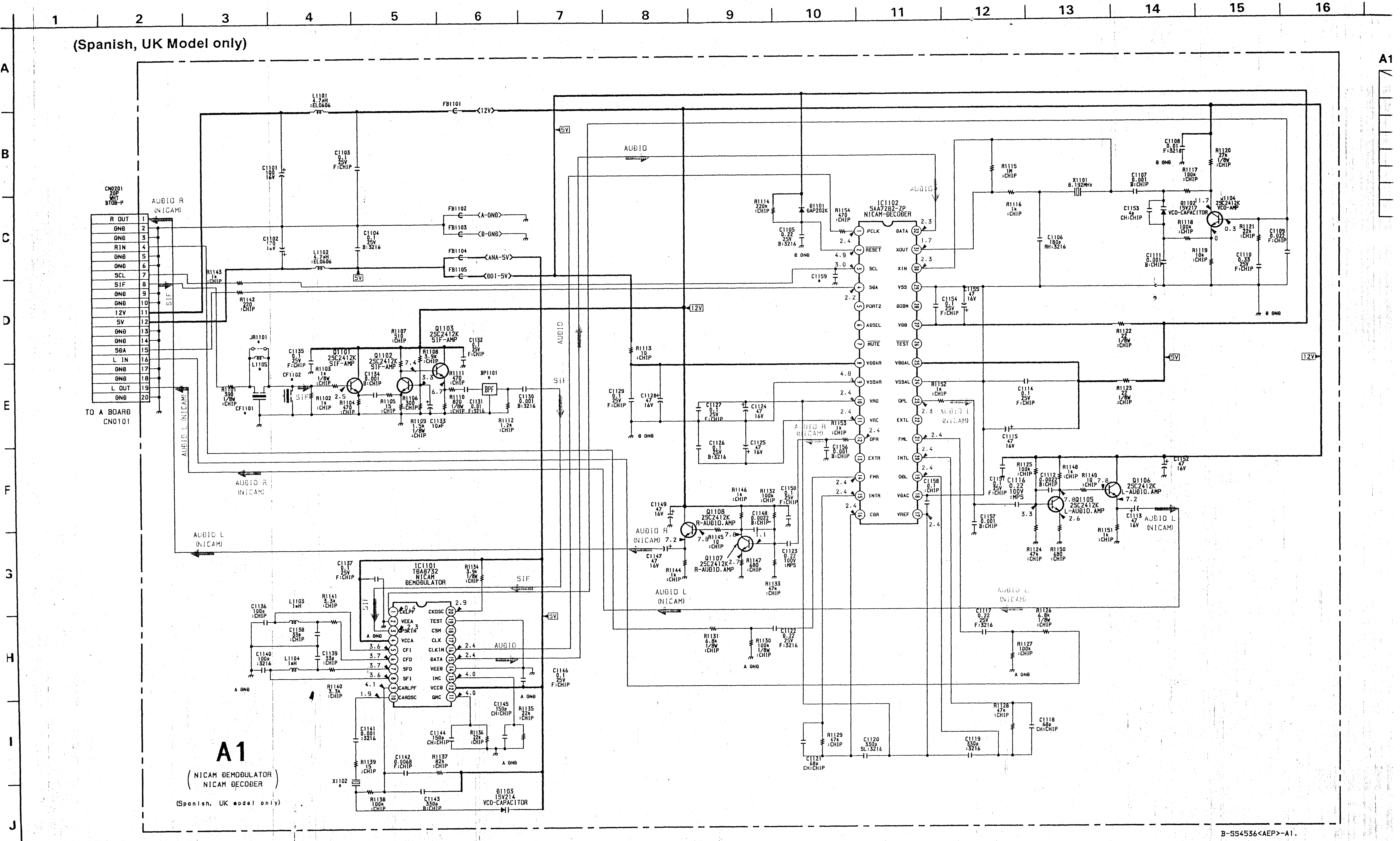

SONY
D4
1-648-520-11 (1707250111)
CN1841
QP-
QP+
L1845
D1842
L1841
C1843
D1840
L1843
C1844
Q1841
CN1842
15V PULSE
R1847
R1894
R1842
R1849
R1848
L1852
V PIN AMP
RV1853
R1885
Q1861
Q1856
D1867
R1882
Q1855
D1862
D1841
R1842
C1855
R1854
D1863
R1881
Q1859
Q1860
D1868
C1862
R1878
Q1854
C1863
JR1856
Q1857
Q1858
JR1852
R1840
R1843
R1873
C1841
R1844
Q1840
R1841
C1860
C1862
C1861
C1855
R1859
R1861
IC1853
IC1852
R1877
JR1854
Q1853
EY991
EY992
T1851
Q1852
R1851
EY990
EY993
R1893
C1856
R1863
C1851
IC1851
C1854
PULSE WIDTH
R1875
RV1851
R1895
JR1851
R1856
Q1851
CN1823
C1892
R1852
VP OUT+
VP OUT+
VP OUT-
VP OUT-
FBT 15V
FBT -15V
H-DRIVE
H-TRPZ
GND
135V

Schematic diagrams

A1 C

VM boards ➡

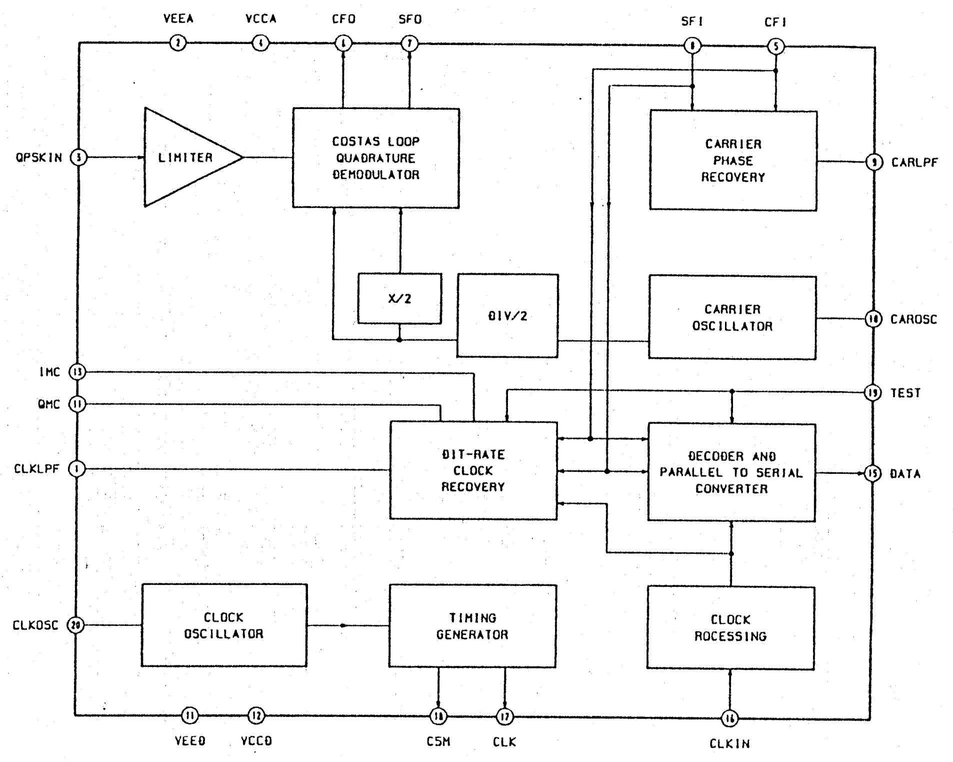
(Spanish, UK Model only)

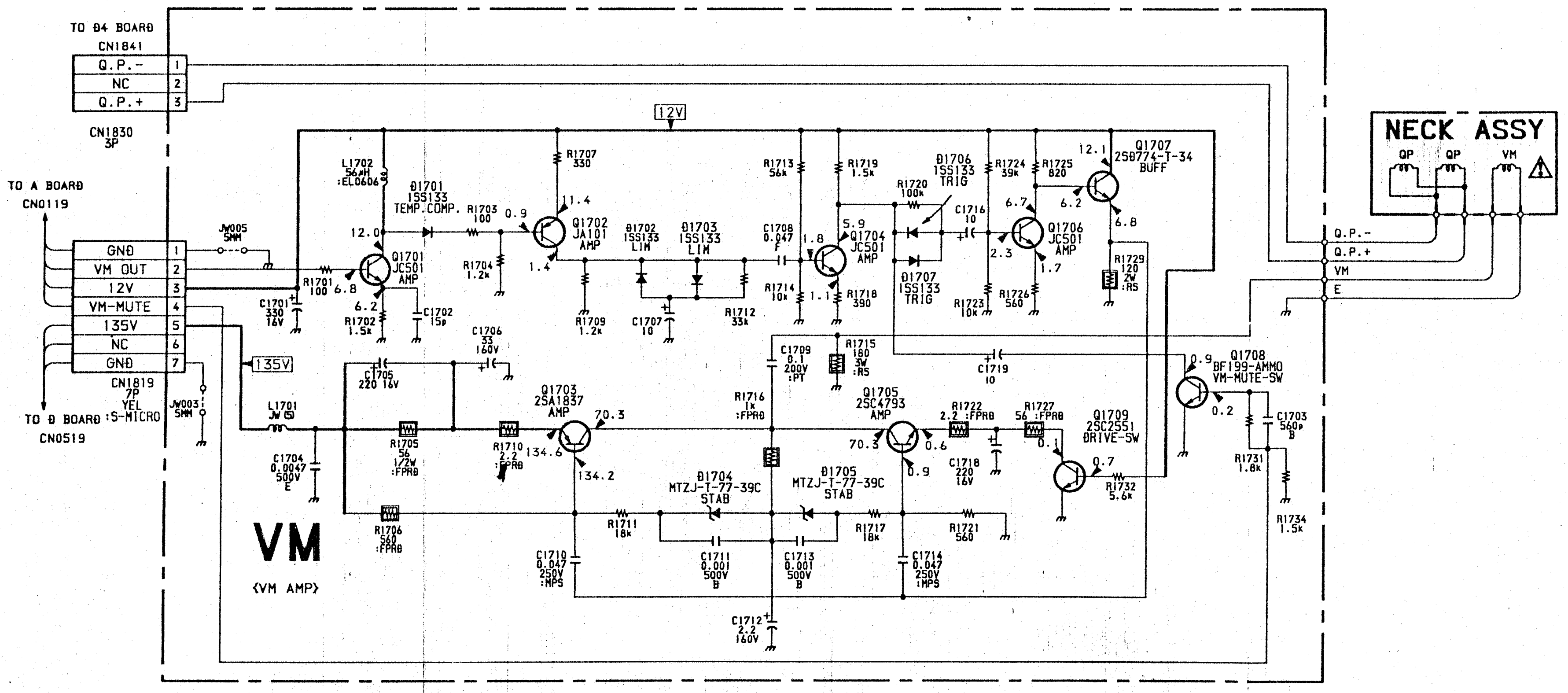

A1
NICAM DEMODULATOR
NICAM DECODER
(Spanish, UK model only)
CN0201 20P WHT BTOB-P
TO A BOARD CN0101
R OUT
GND
RIN
SCL
SIF
12V
5V
SDA
L IN
L OUT
AUDIO R (NICAM)
AUDIO L (NICAM)
AUDIO
SIF
IC1101 TDA8732 NICAM DEMODULATOR
IC1102 SAA7282-ZP NICAM-DECODER
Q1101 2SC2412K SIF-AMP
Q1102 2SC2412K SIF-AMP
Q1103 2SC2412K SIF-AMP
Q1104 2SC2412K VCO-AMP
Q1105 2SC2412K L-AUDIO.AMP
Q1106 2SC2412K L-AUDIO.AMP
Q1107 2SC2412K R-AUDIO.AMP
Q1108 2SC2412K R-AUDIO.AMP
D1101 GAP202K
D1102 15V217 VCO-CAPACITOR
D1103 1SV214 VCO-CAPACITOR
X1101 8.192MHz
X1102
BPF1101
FB1101
FB1102
FB1103
FB1104
FB1105
A-GND
B-GND
ANA-5V
DGI-5V
B-SS4536<AEP>-A1.

A1 BOARD * MARK

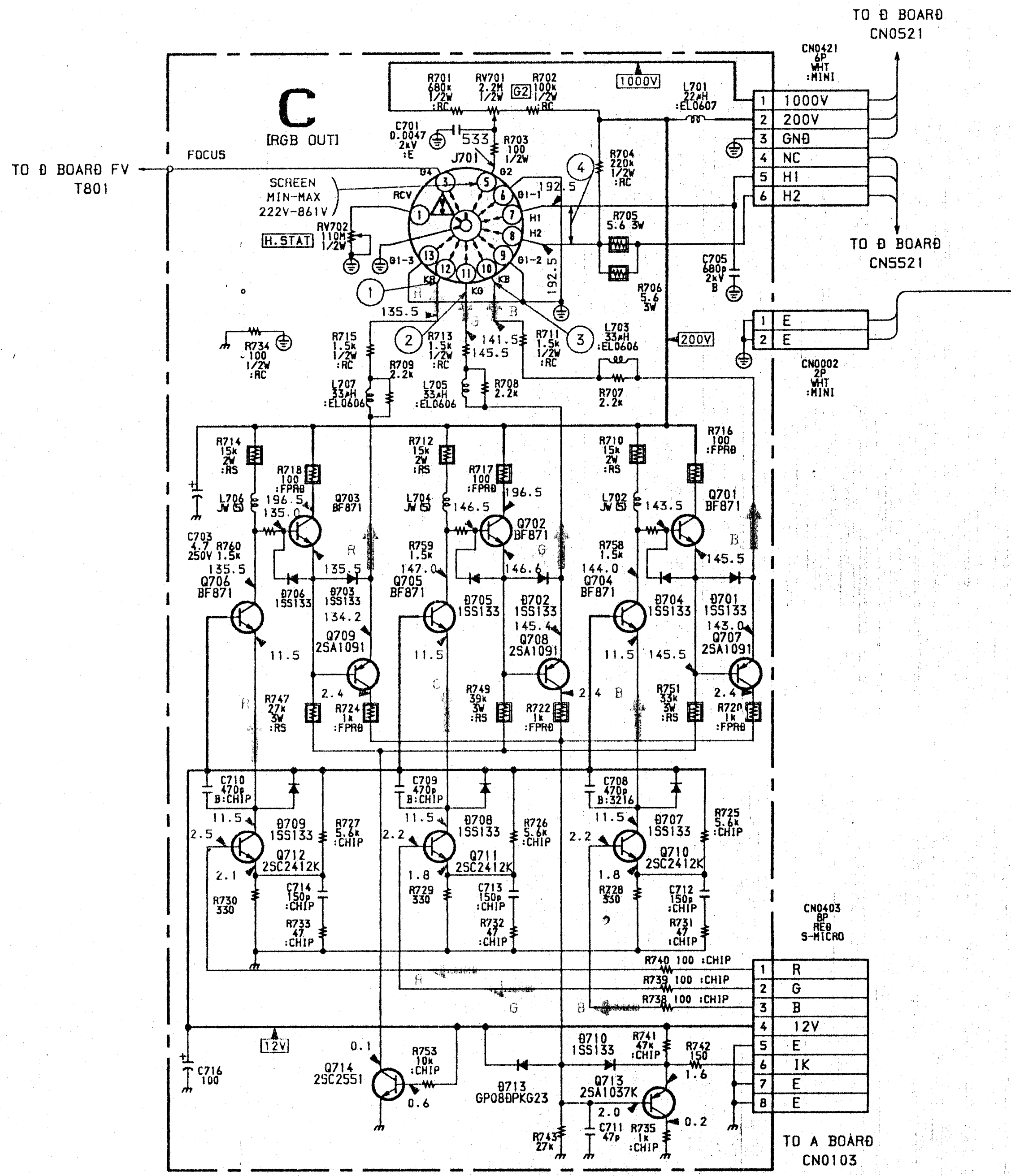
Model	Spanish	UK
BP1101	5.850MHz	6.552MHz
C1159	–	47P CH
CF1101	–	6.0MHz
CF1102	5.5MHz	–
JR1101	0 : CHIP	–
L1105	–	1MMH
X1102	11.700MHz	13.104MHz

• A1 BOARD IC1101 TDA8732

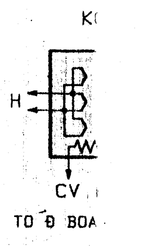

VEEA
VCCA
CFO
SFO
SFI
CFI
QPSKIN
LIMITER
COSTAS LOOP QUADRATURE DEMODULATOR
CARRIER PHASE RECOVERY
CARLPF
X/2
DIV/2
CARRIER OSCILLATOR
CAROSC
IMC
QMC
TEST
CLKLPF
BIT-RATE CLOCK RECOVERY
DECODER AND PARALLEL TO SERIAL CONVERTER
DATA
CLKOSC
CLOCK OSCILLATOR
TIMING GENERATOR
CLOCK ROCESSING
VEEÐ
VCCÐ
CSM
CLK
CLKIN

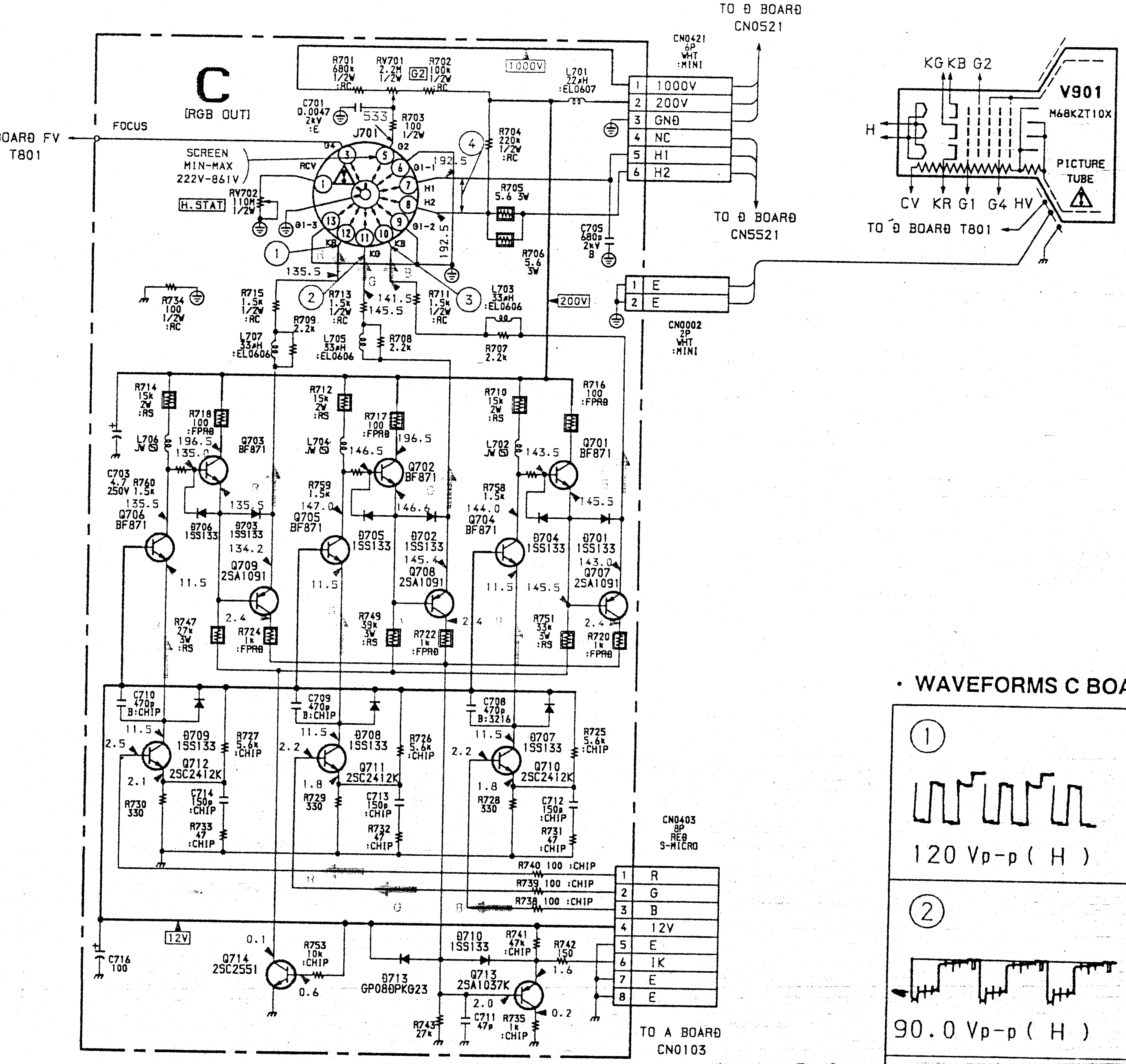

TO Ð4 BOARD CN1841
Q.P.-
NC
Q.P.+
CN1830 3P
TO A BOARD CN0119
GNÐ
VM OUT
12V
VM-MUTE
135V
NC
GNÐ
CN1819 7P YEL :S-MICRO
TO Ð BOARD CN0519
12V
135V
Q1701 JC501 AMP
D1701 1SS133 TEMP.COMP.
Q1702 JA101 AMP
D1702 1SS133 LIM
D1703 1SS133 LIM
Q1704 JC501 AMP
D1706 1SS133 TRIG
D1707 1SS133 TRIG
Q1706 JC501 AMP
Q1707 2SD774-T-34 BUFF
Q1703 2SA1837 AMP
Q1705 2SC4793 AMP
D1704 MTZJ-T-77-39C STAB
D1705 MTZJ-T-77-39C STAB
Q1709 2SC2551 DRIVE-SW
Q1708 BF199-AMMO VM-MUTE-SW
NECK ASSY
QP
QP
VM
Q.P.-
Q.P.+
VM
E
VM
〈VM AMP〉

B-SS4536<AEP>-VM.


C
[RGB OUT]
TO Ð BOARD FV T801
FOCUS
SCREEN MIN-MAX 222V-861V
RV702
H.STAT
J701
TO Ð BOARD CN0521
CN0421 6P WHT :MINI
1000V
200V
GNÐ
NC
H1
H2
TO Ð BOARD CN5521
CN0002 2P WHT :MINI
E
E
Q703 BF871
Q702 BF871
Q701 BF871
Q706 BF871
Q705 BF871
Q704 BF871
Q709 2SA1091
Q708 2SA1091
Q707 2SA1091
Q712 2SC2412K
Q711 2SC2412K
Q710 2SC2412K
Q714 2SC2551
D713 GP08DPKG23
Q713 2SA1037K
CN0403 8P RED S-MICRO
R
G
B
12V
E
IK
E
E
TO A BOARD CN0103

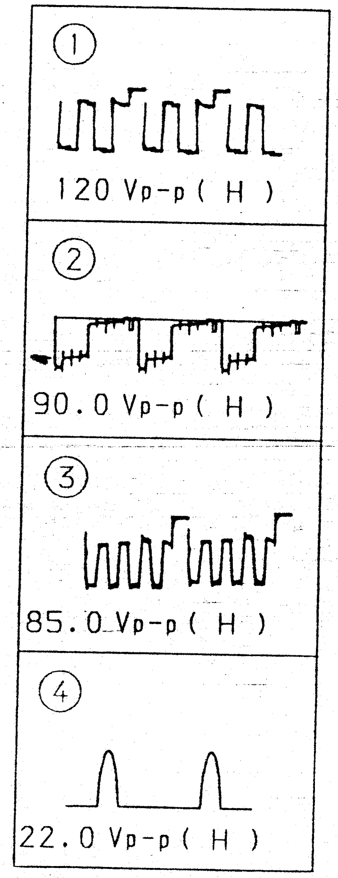
B-SS4536<AEP>-C..




C
[RGB OUT]
BOARD FV
T801
FOCUS
SCREEN MIN-MAX 222V-861V
H.STAT
RV702 110M 1/2W
R701 680k 1/2W :RC
RV701 2.2M 1/2W
G2
R702 100k 1/2W :RC
1000V
L701 22μH :EL0607
C701 0.0047 2kV :E
J701
R703 100 1/2W
R704 220k 1/2W :RC
R705 5.6 3W
C705 680p 2kV B
R706 5.6 3W
192.5
135.5
141.5
145.5
R715 1.5k 1/2W :RC
R713 1.5k 1/2W :RC
R711 1.5k 1/2W :RC
L703 33μH :EL0606
200V
R734 100 1/2W :RC
R709 2.2k
R708 2.2k
R707 2.2k
L707 33μH :EL0606
L705 33μH :EL0606
R714 15k 2W :RS
R712 15k 2W :RS
R710 15k 2W :RS
R716 100 :FPRB
R718 100 :FPRB
R717 100 :FPRB
L706
L704
L702
Q703 BF871
Q702 BF871
Q701 BF871
196.5
135.0
146.5
143.5
C703 4.7 250V
R760 1.5k
R759 1.5k
R758 1.5k
Q706 BF871
Q705 BF871
Q704 BF871
D706 1SS133
D703 1SS133
D705 1SS133
D702 1SS133
D704 1SS133
D701 1SS133
134.2
145.4
143.0
Q709 2SA1091
Q708 2SA1091
Q707 2SA1091
11.5
145.5
R747 27k 3W :RS
R749 39k 3W :RS
R751 33k 3W :RS
R724 1k :FPRB
R722 1k :FPRB
R720 1k :FPRB
2.4
C710 470p B:CHIP
C709 470p B:CHIP
C708 470p B:3216
D709 1SS133
D708 1SS133
D707 1SS133
R727 5.6k :CHIP
R726 5.6k :CHIP
R725 5.6k :CHIP
Q712 2SC2412K
Q711 2SC2412K
Q710 2SC2412K
2.5
2.2
2.1
1.8
R730 330
R729 330
R728 330
C714 150p :CHIP
C713 150p :CHIP
C712 150p :CHIP
R733 47 :CHIP
R732 47 :CHIP
R731 47 :CHIP
R740 100 :CHIP
R739 100 :CHIP
R738 100 :CHIP
12V
C716 100
Q714 2SC2551
R753 10k :CHIP
0.1
0.6
D713 GP08DPKG23
D710 1SS133
R741 47k :CHIP
R742 150
Q713 2SA1037K
1.6
2.0
0.2
C711 47p
R735 1k :CHIP
R743 27k
CN0421 6P WHT :MINI
1 1000V
2 200V
3 GND
4 NC
5 H1
6 H2
TO D BOARD CN0521
TO D BOARD CN5521
CN0002 2P WHT :MINI
1 E
2 E
CN0403 8P RED S-MICRO
1 R
2 G
3 B
4 12V
5 E
6 IK
7 E
8 E
TO A BOARD CN0103
KG KB G2
H
V901
M68KZT10X
PICTURE TUBE
CV KR G1 G4 HV
TO D BOARD T801

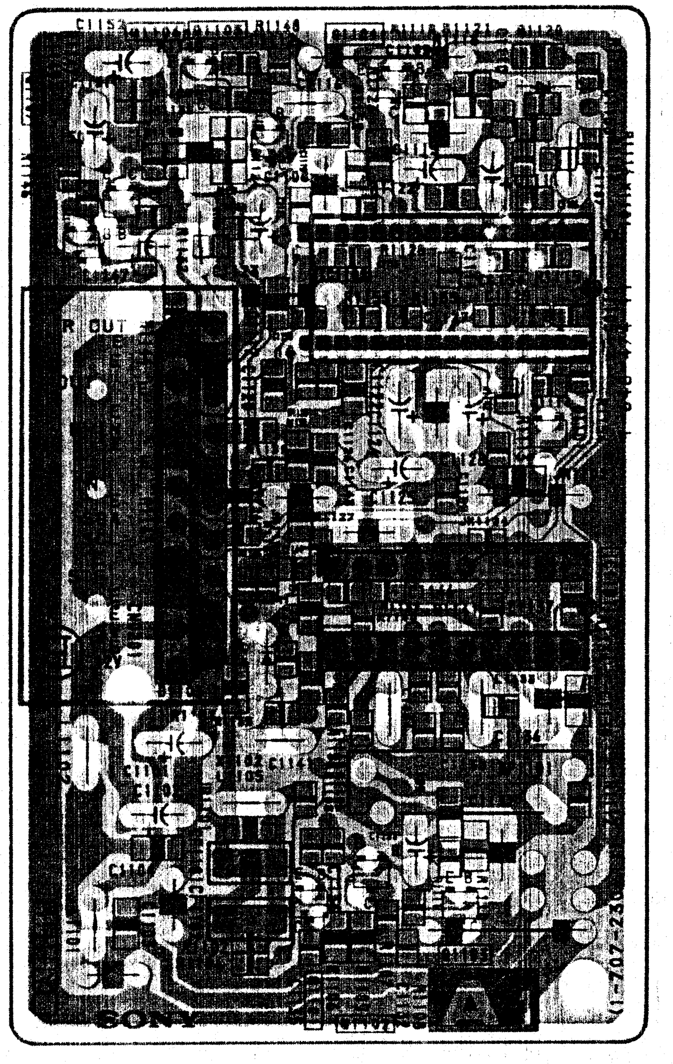
B-SS4536<AEP>-C..

• **WAVEFORMS C BOARD**

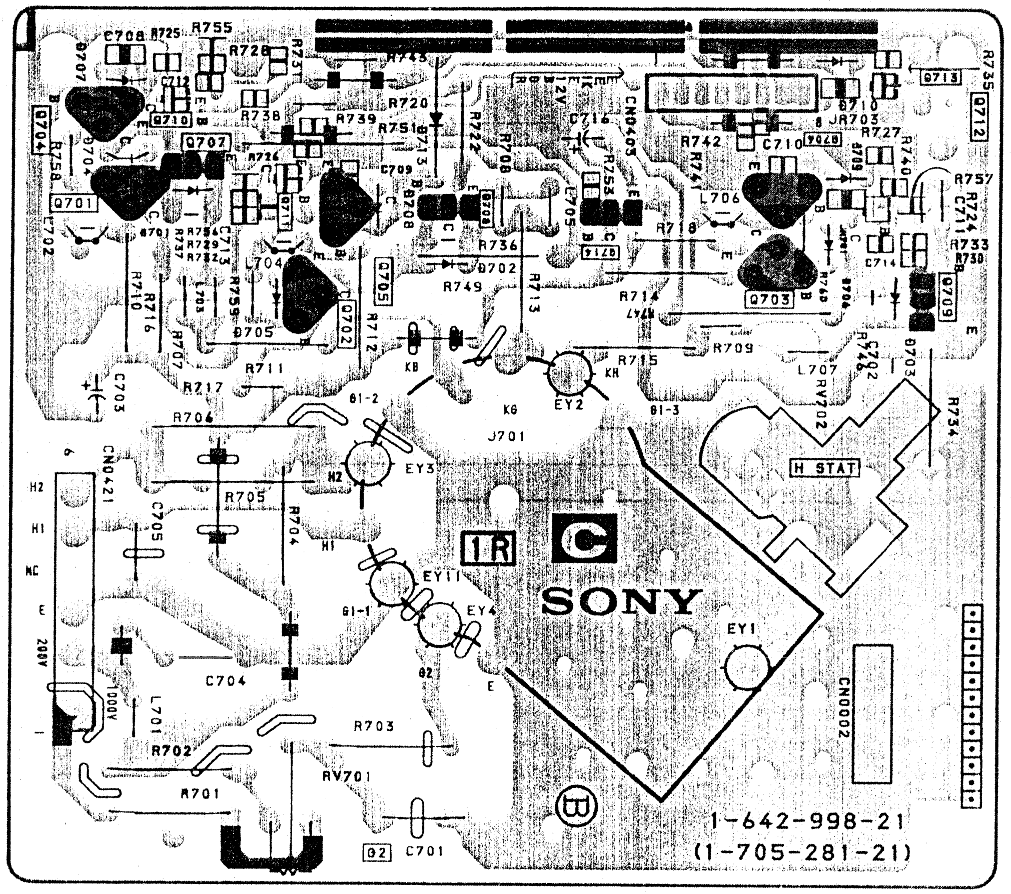


A1 [NICAM DECODER, NICAM DEMODULATOR] **C** [R.G.B OUT] **VM** [VM AMP]

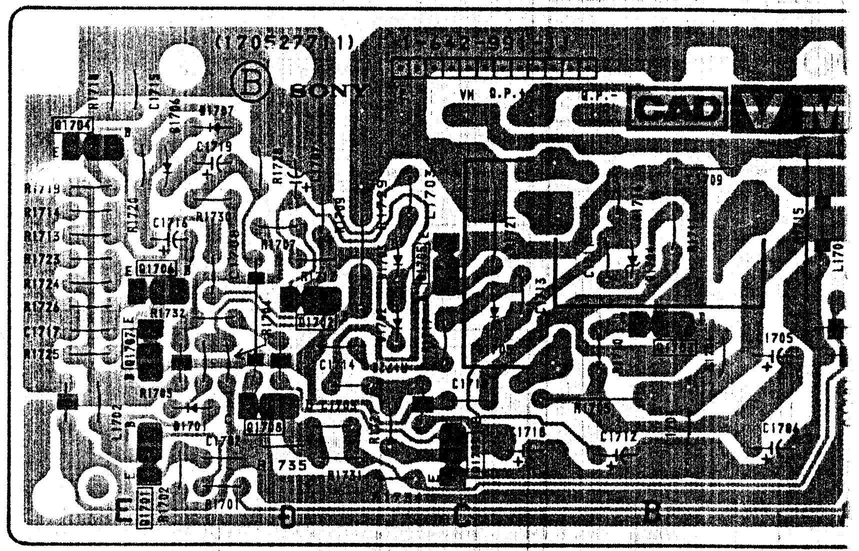
– A1 BOARD – (Spanish, UK Model only)



– C BOARD –

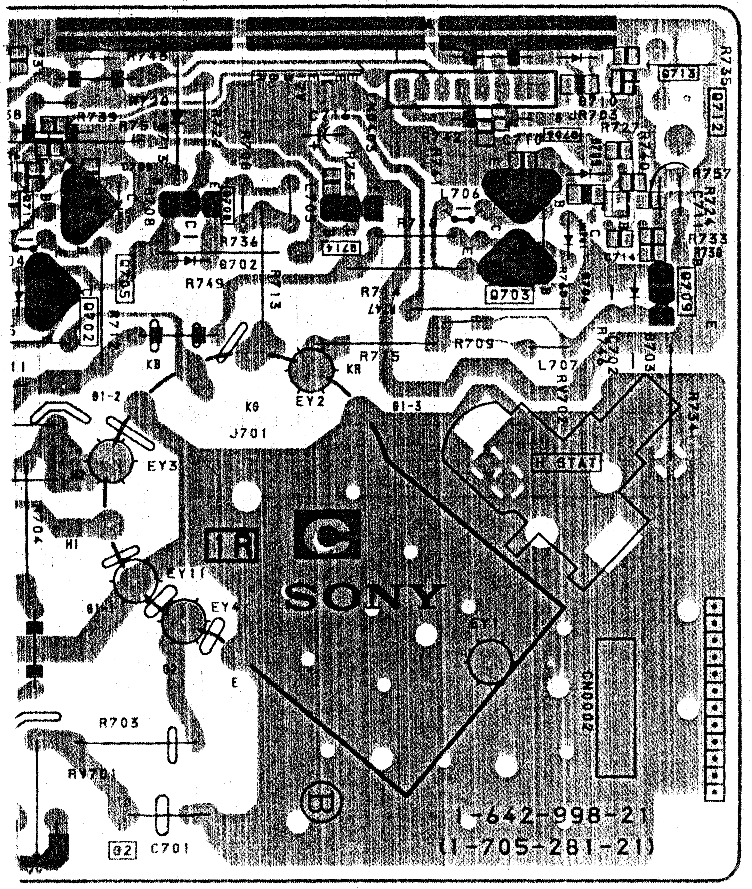

C708
R755
R726
Q707
Q710
Q701
Q704
R720
R738
R739
R745
R742
C710
C716
CN0403
R757
R735
Q712
Q713
L706
L707
R709
R714
R715
R711
R717
R706
R705
R704
R703
R702
R701
RV701
RV702
C701
C703
C704
C705
L701
L704
Q702
Q703
Q705
Q709
R749
R736
R713
R712
R716
R710
R707
R734
R733
R724
C711
EY1
EY2
EY3
EY4
EY11
J701
CN0421
H STAT
IR
C
SONY
CN0002
1-642-998-21
(1-705-281-21)

– VM BOARD –

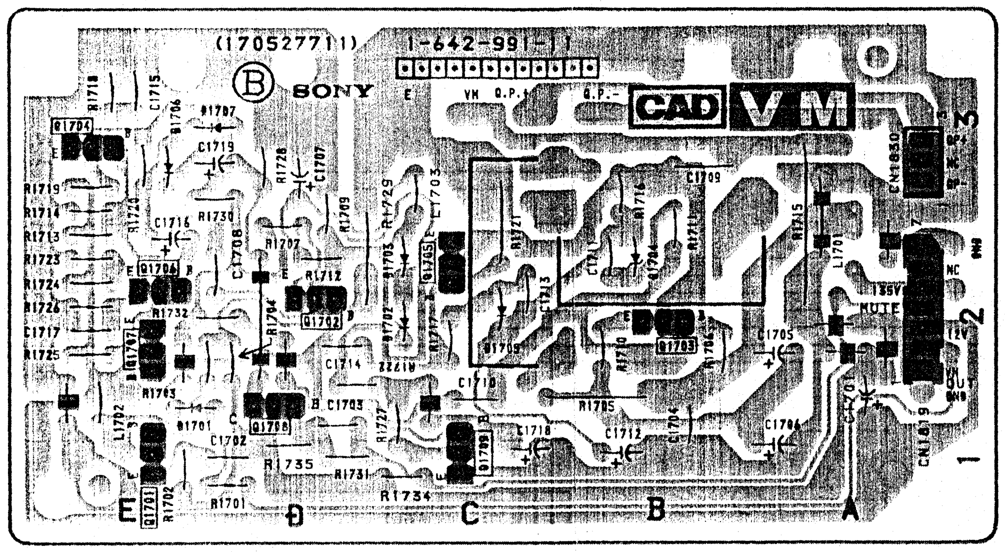

(1705277
SONY
CAD
Q1704
Q1706
Q1701
Q1702
R1732
C1711
C1704
C1705
735
D
C
B
E

Note :

- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.


SONY
C
1R
J701
EY1
EY2
EY3
EY4
CN0002
R703
R701
C701
1-642-998-21
(1-705-281-21)

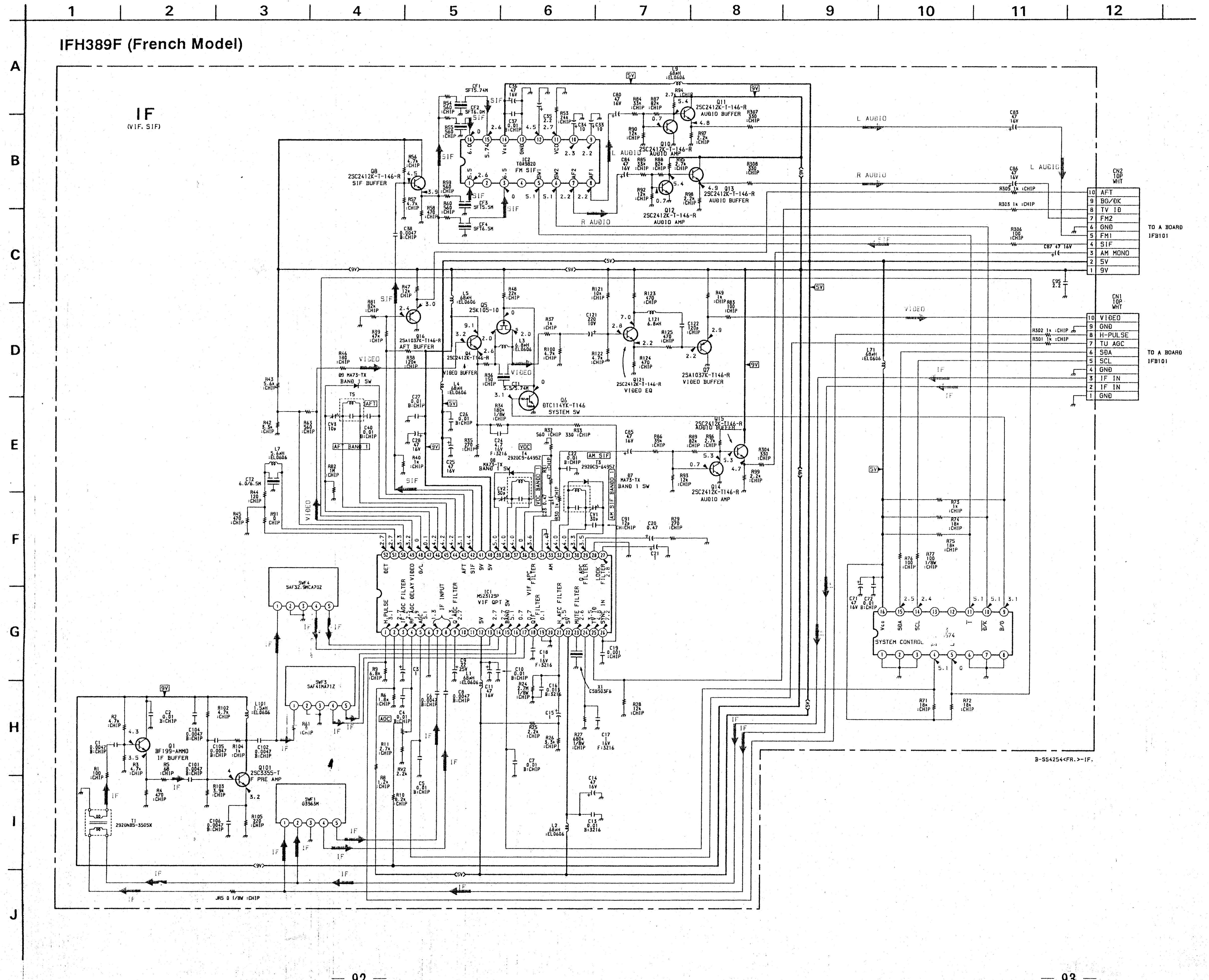
– VM BOARD –


(1705277 11)
1-642-991-11
SONY
CAD
VM
CN1850
CN1851
MUTE
A
B
C
D
E
1
2
3

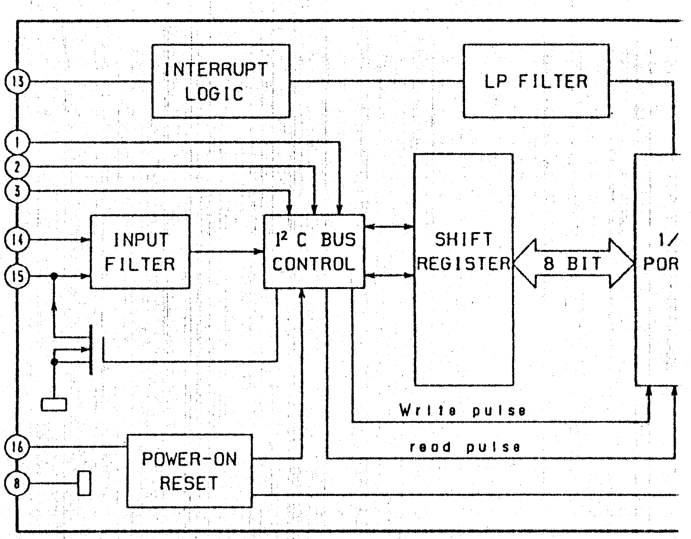
Schematic diagra

IF boards

IFH389F (French Model)

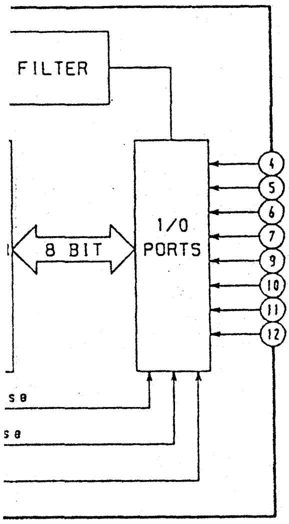

1
2
3
4
5
6
7
8
9
10
11
12
A
B
C
D
E
F
G
H
I
J
IF
(VIF, SIF)
IC1
M52312SP
VIF QPT
IC2
TDA3820
FM SIF
Q8 2SC2412K-T-146-R SIF BUFFER
Q16 2SA1037K-T146-R AFT BUFFER
Q4 2SC2412K-T146-R VIDEO BUFFER
Q5 2SK105-10
Q6 DTC114YK-T146 SYSTEM SW
Q121 2SC2412K-T-146-R VIDEO EQ
Q7 2SA1037K-T146-R VIDEO BUFFER
Q11 2SC2412K-T-146-R AUDIO BUFFER
Q10 2SC2412K-T-146-R AUDIO AMP
Q13 2SC2412K-T-146-R AUDIO BUFFER
Q12 2SC2412K-T-146-R AUDIO AMP
Q15 2SC2412K-T-146-R AUDIO BUFFER
Q14 2SC2412K-T-146-R AUDIO AMP
Q1 BF199-AMMO IF BUFFER
Q101 2SC3355-T IF PRE AMP
SWF4 SAF32.9MCA70Z
SWF3 SAF41MA71Z
SWF1 G3965M
T1 2920H85-3505X
X1 CSB503F6
L AUDIO
R AUDIO
VIDEO
SIF
IF
CN2 10P WHT
10 AFT
9 BG/DK
8 TV ID
7 FM2
6 GND
5 FM1
4 SIF
3 AM MONO
2 5V
1 9V
TO A BOARD IFB101
CN1 10P WHT
10 VIDEO
9 GND
8 H-PULSE
7 TU AGC
6 SDA
5 SCL
4 GND
3 IF IN
2 IF IN
1 GND
TO A BOARD IFB101
SYSTEM CONTROL
B-554254<FR.>-IF.

• IF BOARD IC3 PC8574 (French Model)

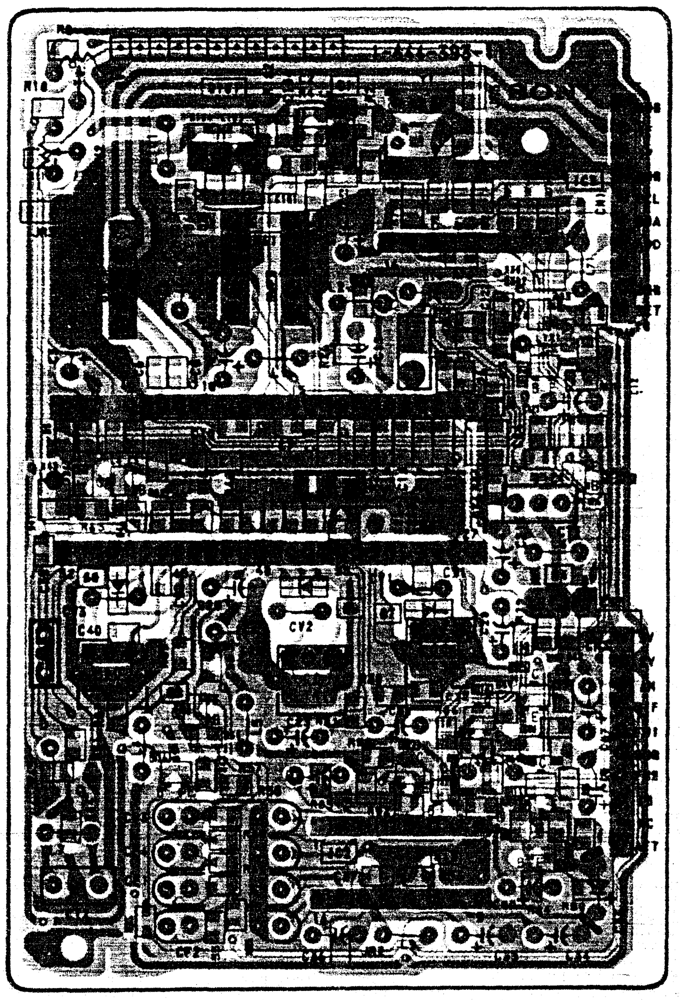

13
1
2
3
14
15
16
8
INTERRUPT LOGIC
LP FILTER
INPUT FILTER
I² C BUS CONTROL
SHIFT REGISTER
8 BIT
1/ POR
Write pulse
read pulse
POWER-ON RESET

IF [VIF, SIF]

I)


FILTER
8 BIT
I/O PORTS
4
5
6
7
9
10
11
12

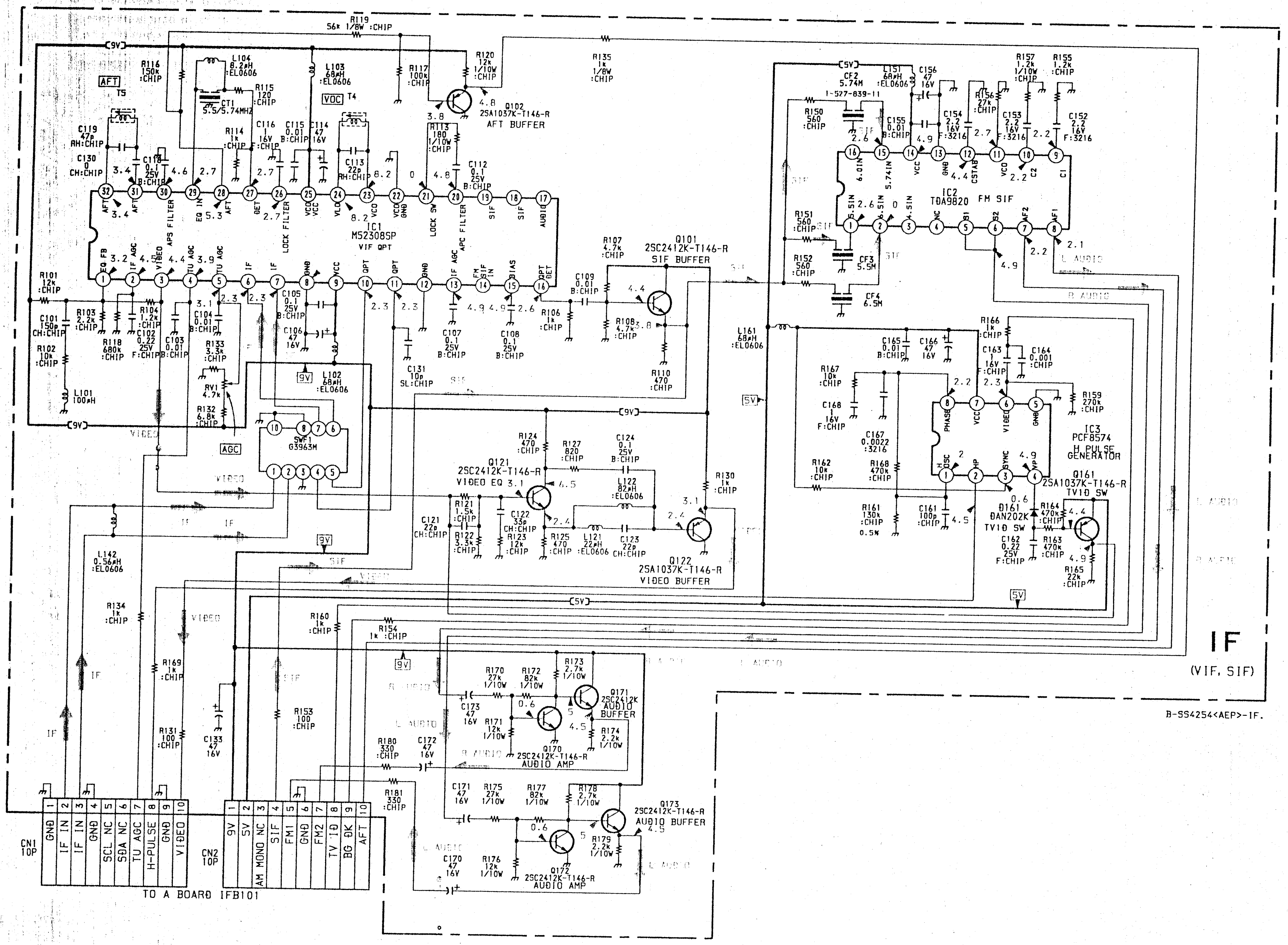
– IF BOARD – (French Model)



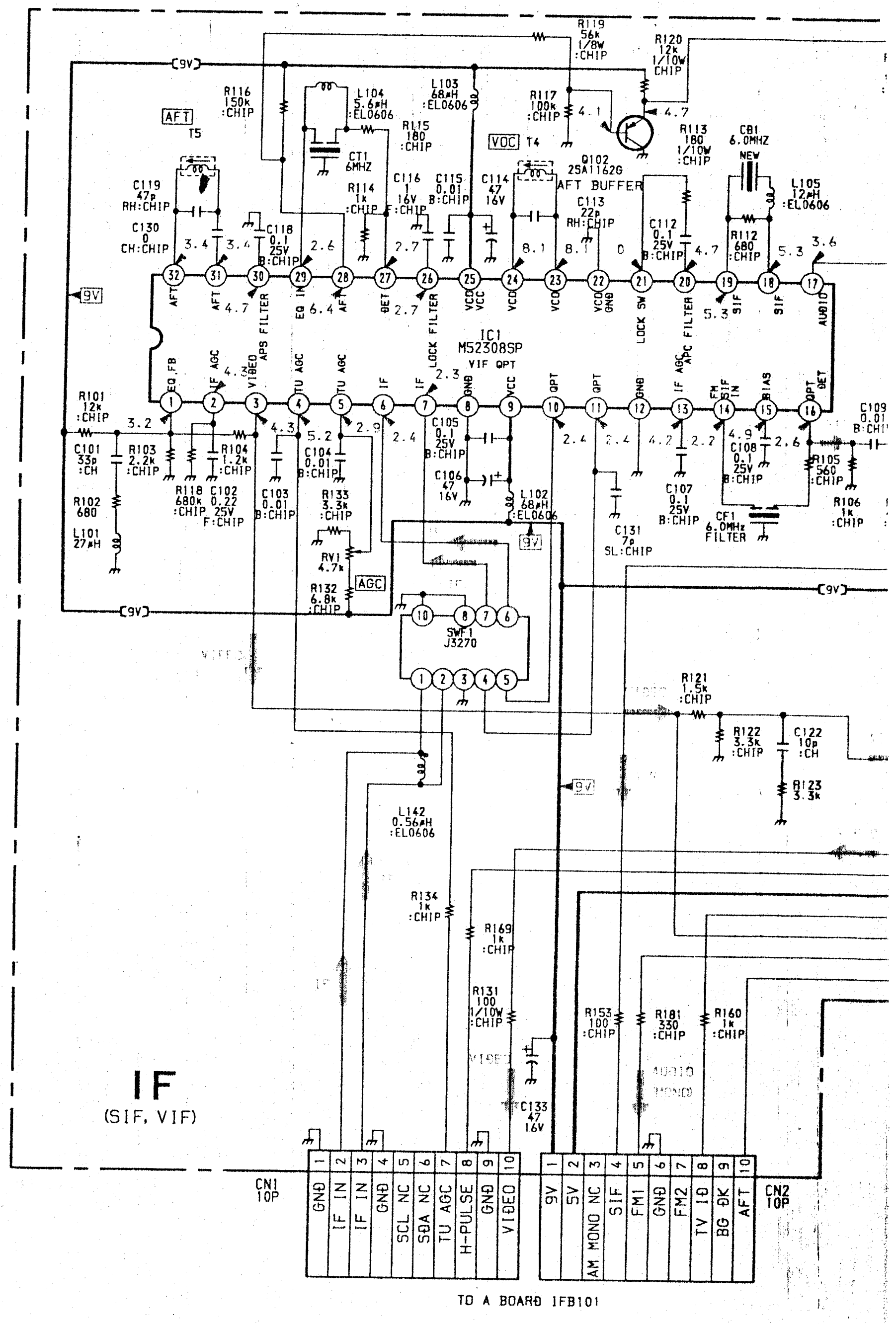
Note :

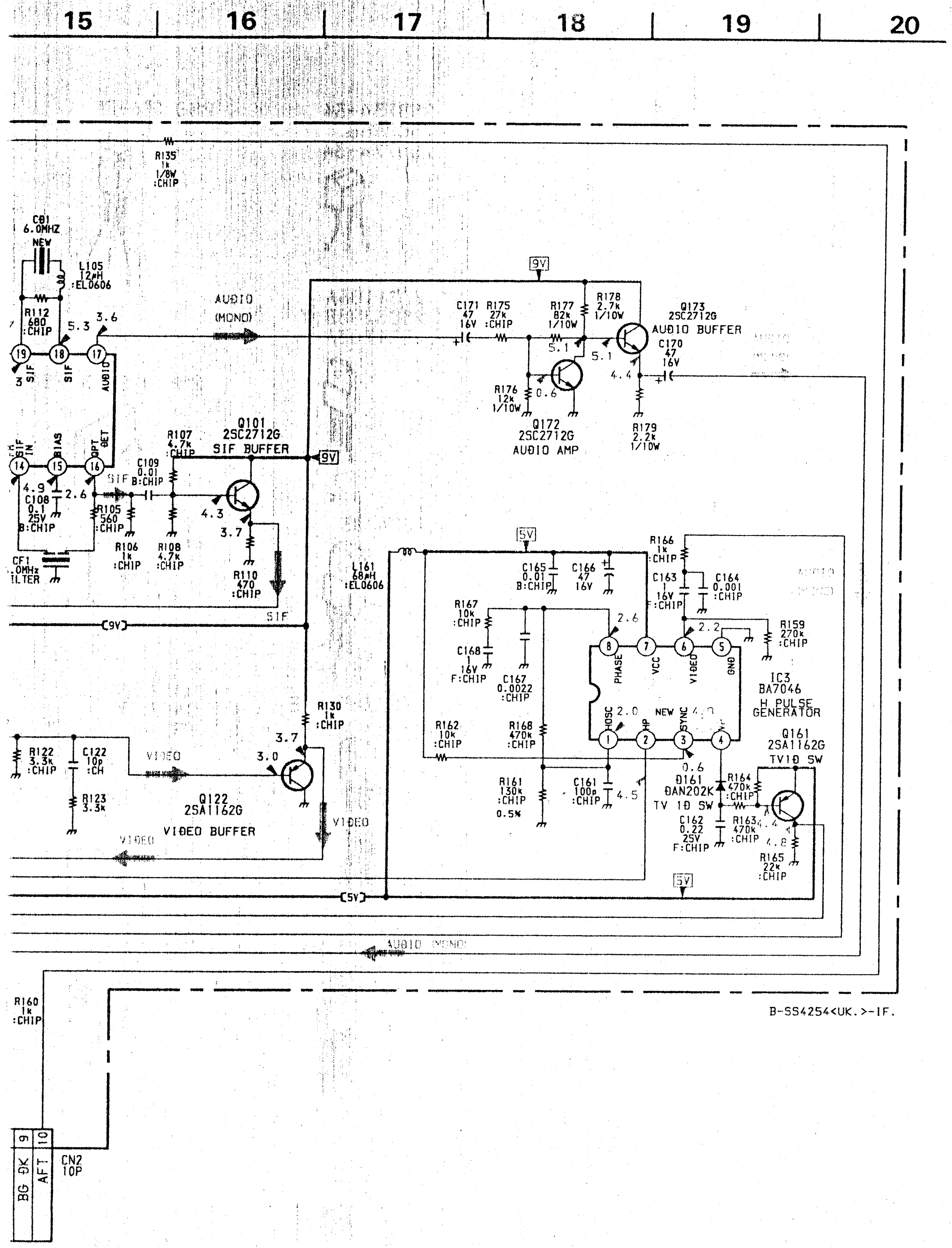
- ▨ : Pattern from the side which enables seeing.
- ■ : Pattern of the rear side.

IFH389 (AEP, Italian, Spanish Model)


IC1 M52308SP VIF OPT
IC2 TDA9820 FM SIF
IC3 PCF8574 H PULSE GENERATOR
Q101 2SC2412K-T146-R SIF BUFFER
Q102 2SA1037K-T146-R AFT BUFFER
Q121 2SC2412K-T146-R VIDEO EQ
Q122 2SA1037K-T146-R VIDEO BUFFER
Q161 2SA1037K-T146-R TV10 SW
D161 DAN202K
Q170 2SC2412K-T146-R AUDIO AMP
Q171 2SC2412K AUDIO BUFFER
Q172 2SC2412K-T146-R AUDIO AMP
Q173 2SC2412K-T146-R AUDIO BUFFER
SWF1 G3963M
CF2 5.74M
CF3 5.5M
CF4 6.5M
CT1 5.5/5.74MHZ
AFT T5
VOC T4
AGC
9V
5V
IF (VIF, SIF)
B-SS4254<AEP>-IF.
CN1 10P
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
CN2 10P
9V
5V
AM MONO NC
SIF
FM1
GND
FM2
TV ID
BG DK
AFT
TO A BOARD IFB101

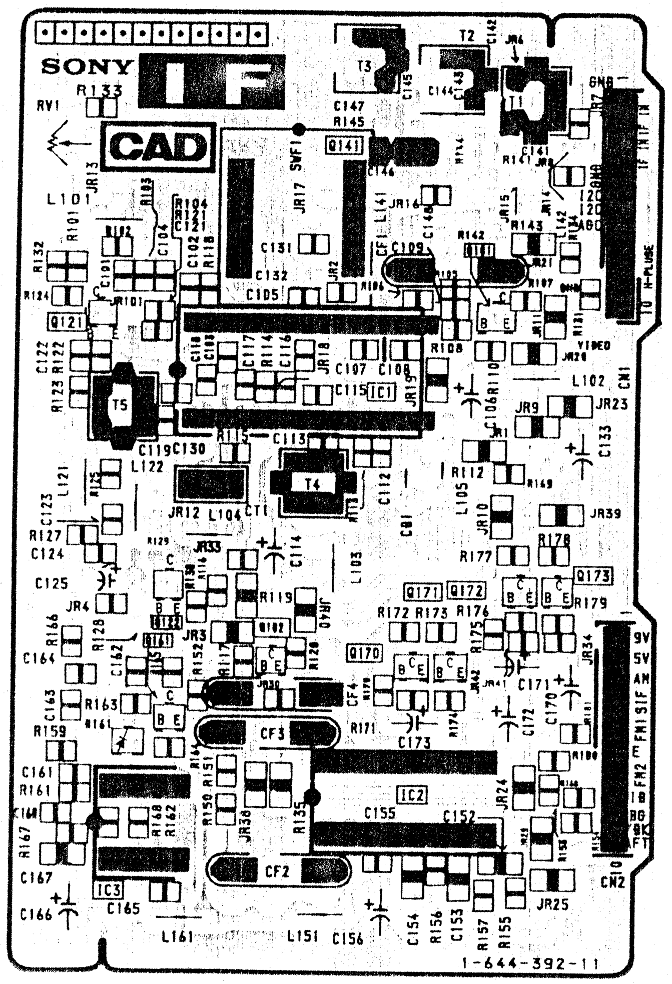
IFH385 (UK Model)


IC1 M52308SP VIF OPT
Q102 2SA1162G AFT BUFFER
SWF1 J3270
CF1 6.0MHz FILTER
CT1 6MHZ
CB1 6.0MHZ NEW
AFT T5
VOC T4
AGC
9V
IF (SIF, VIF)
CN1 10P
GND
IF IN
IF IN
GND
SCL NC
SDA NC
TU AGC
H-PULSE
GND
VIDEO
CN2 10P
9V
5V
AM MONO NC
SIF
FM1
GND
FM2
TV ID
BG DK
AFT
TO A BOARD IFB101

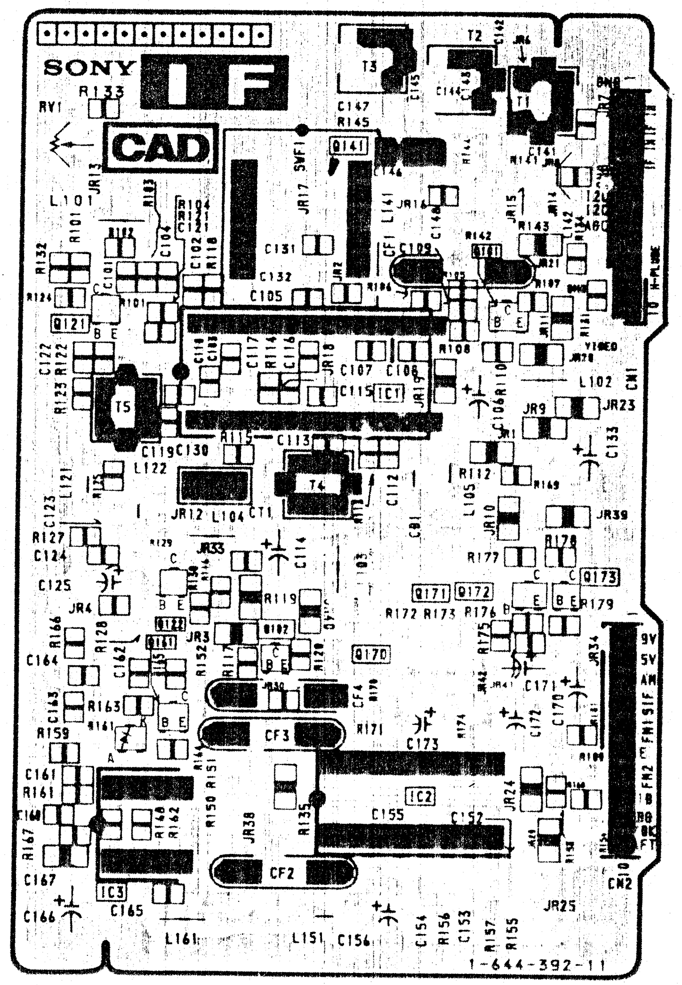

15
16
17
18
19
20
R135 1k 1/8W :CHIP
CB1 6.0MHz
L105 12μH :EL0606
R112 680 :CHIP
AUDIO (MONO)
C171 47 16V
R175 27k :CHIP
R177 82k 1/10W
R178 2.7k 1/10W
Q173 2SC2712G AUDIO BUFFER
C170 47 16V
R176 12k 1/10W
Q172 2SC2712G AUDIO AMP
R179 2.2k 1/10W
9V
R107 4.7k :CHIP
Q101 2SC2712G SIF BUFFER
C109 0.01 B:CHIP
C108 0.1 25V B:CHIP
R105 560 :CHIP
R106 1k :CHIP
R108 4.7k :CHIP
R110 470 :CHIP
CF1 6.0MHz FILTER
SIF
L161 68μH :EL0606
5V
R166 1k :CHIP
C165 0.01 B:CHIP
C166 47 16V
C163 1 16V F:CHIP
C164 0.001 :CHIP
R167 10k :CHIP
C168 1 16V F:CHIP
C167 0.0022 :CHIP
R159 270k :CHIP
IC3 BA7046 H PULSE GENERATOR
PHASE
VCC
VIDEO
GND
H OSC
SYNC
R162 10k :CHIP
R168 470k :CHIP
Q161 2SA1162G TV10 SW
D161 DAN202K TV 10 SW
R164 470k :CHIP
R161 130k :CHIP 0.5%
C161 100p :CHIP
C162 0.22 25V F:CHIP
R163 470k :CHIP
R165 22k :CHIP
R130 1k :CHIP
R122 3.3k :CHIP
C122 10p :CH
R123 3.3k
Q122 2SA1162G VIDEO BUFFER
VIDEO
9V
5V
AUDIO (MONO)
R160 1k :CHIP
CN2 10P
BG DK
AFT
9
10
B-SS4254<UK.>-IF.

IF [VIF, SIF]

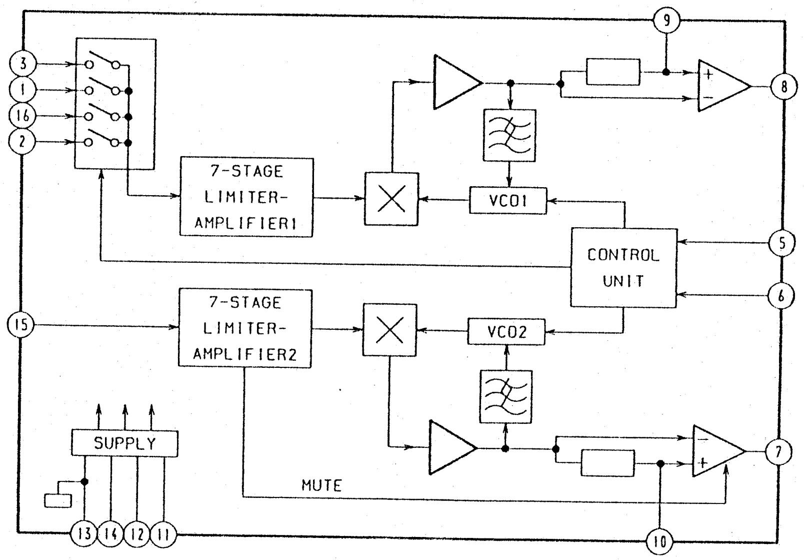
– IF BOARD – (AEP, Italian, Spanish Model)


SONY
IF
CAD
RV1
R133
T2
T3
T1
T4
T5
SWF1
IC1
IC2
IC3
CF2
CF3
CN1
CN2
Q121
Q141
Q171
Q172
Q173
Q170
1-644-392-11

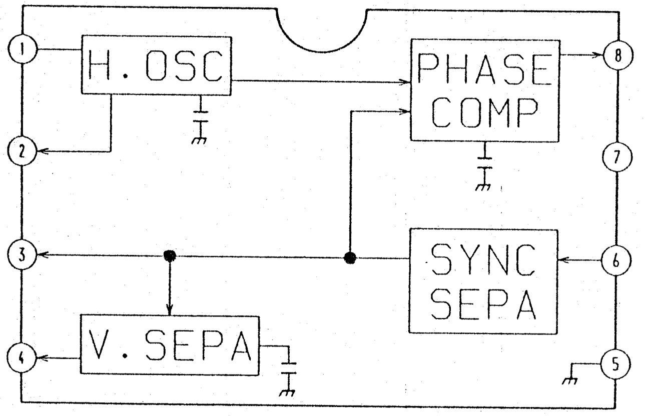
– IF BOARD – (UK Model)


SONY
IF
CAD
RV1
R133
T2
T3
T1
T4
T5
SWF1
IC1
IC2
IC3
CF2
CF3
CN1
CN2
1-644-392-11

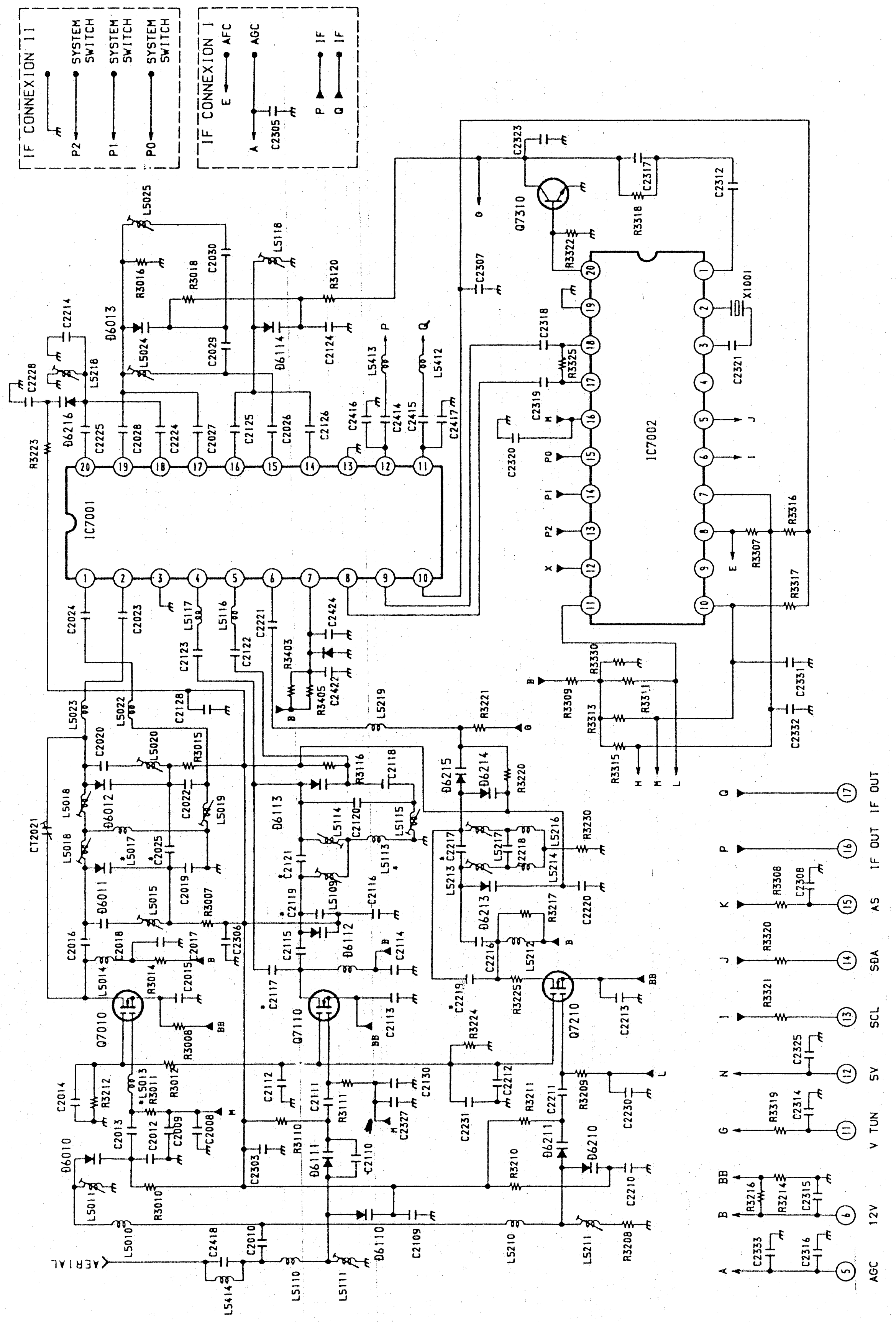
• IF BOARD IC2 TDA9820 (AEP, Italian, Spanish Model)


7-STAGE LIMITER-AMPLIFIER1
7-STAGE LIMITER-AMPLIFIER2
VCO1
VCO2
CONTROL UNIT
SUPPLY
MUTE
1
2
3
5
6
7
8
9
10
11
12
13
14
15
16

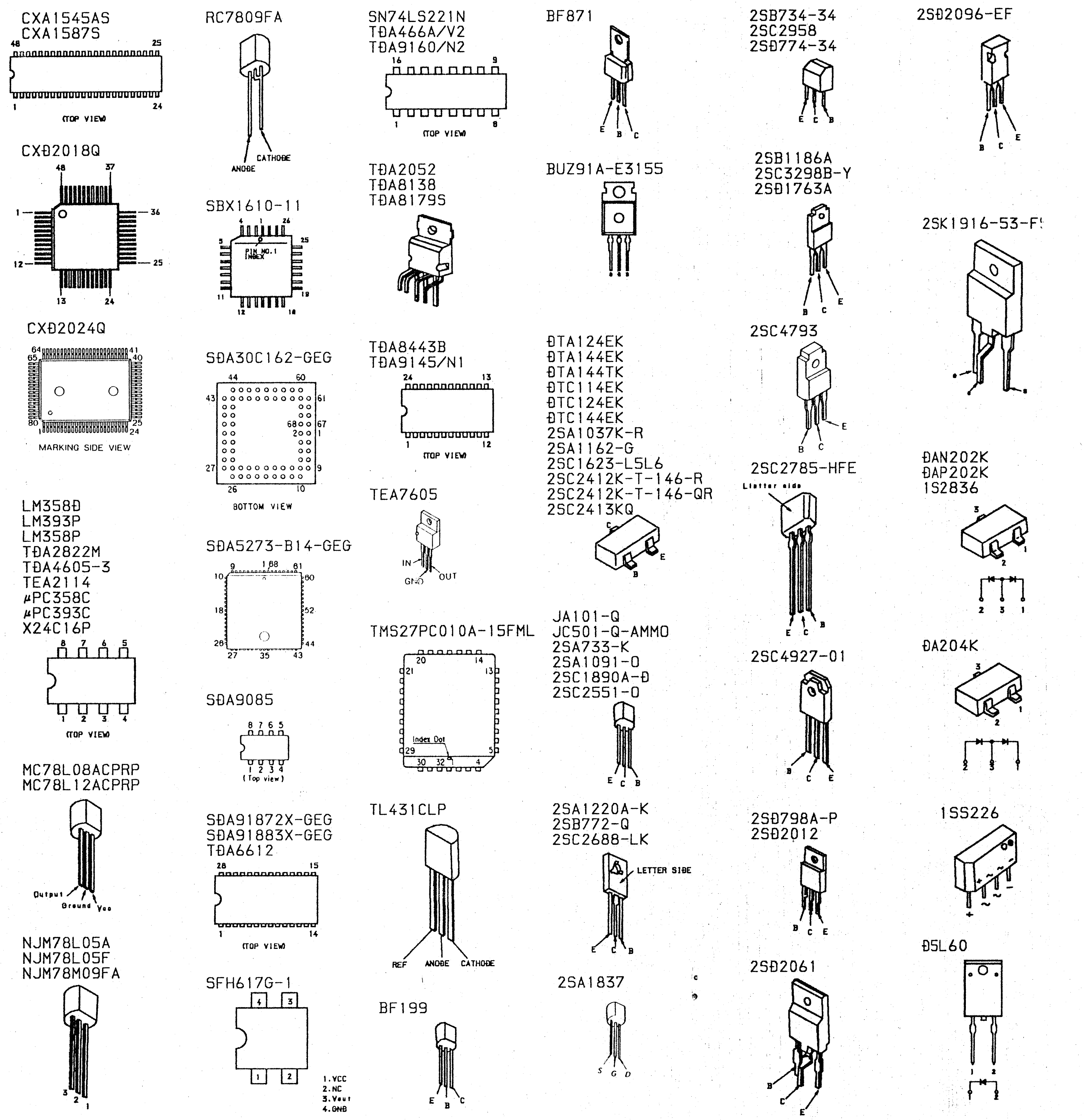
• IF BOARD IC3 BA7046 (AEP, Italian, Spanish Model)


H.OSC
PHASE COMP
SYNC SEPA
V.SEPA
1
2
3
4
5
6
7
8

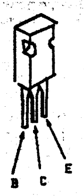
5-4. SCHEMATIC DIAGRAM OF TUNER
A BOARD TU101 UV916H


IF CONNEXION II
SYSTEM SWITCH
P2
P1
P0
IF CONNEXION I
AFC
AGC
E
A
C2305
IF
P
Q
IC7001
IC7002
Q7010
Q7110
Q7210
Q7310
X1001
AERIAL
IF OUT
IF OUT
AS
SDA
SCL
5V
V TUN
12V
AGC

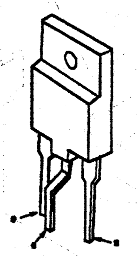
5-5. SEMICONDUCTORS


CXA1545AS
CXA1587S
(TOP VIEW)
CXD2018Q
CXD2024Q
MARKING SIDE VIEW
LM358D
LM393P
LM358P
TDA2822M
TDA4605-3
TEA2114
μPC358C
μPC393C
X24C16P
(TOP VIEW)
MC78L08ACPRP
MC78L12ACPRP
Output
Ground
Vcc
NJM78L05A
NJM78L05F
NJM78M09FA
RC7809FA
ANODE
CATHODE
SBX1610-11
PIN NO.1 INDEX
SDA30C162-GEG
BOTTOM VIEW
SDA5273-B14-GEG
SDA9085
(Top view)
SDA91872X-GEG
SDA91883X-GEG
TDA6612
(TOP VIEW)
SFH617G-1
1.VCC
2.NC
3.Vout
4.GND
SN74LS221N
TDA466A/V2
TDA9160/N2
(TOP VIEW)
TDA2052
TDA8138
TDA8179S
TDA8443B
TDA9145/N1
(TOP VIEW)
TEA7605
IN
GND
OUT
TMS27PC010A-15FML
Index Dot
TL431CLP
REF
ANODE
CATHODE
BF199
BF871
BUZ91A-E3155
DTA124EK
DTA144EK
DTA144TK
DTC114EK
DTC124EK
DTC144EK
2SA1037K-R
2SA1162-G
2SC1623-L5L6
2SC2412K-T-146-R
2SC2412K-T-146-QR
2SC2413KQ
JA101-Q
JC501-Q-AMMO
2SA733-K
2SA1091-O
2SC1890A-D
2SC2551-O
2SA1220A-K
2SB772-Q
2SC2688-LK
LETTER SIDE
2SA1837
S G D
2SB734-34
2SC2958
2SD774-34
2SB1186A
2SC3298B-Y
2SD1763A
2SC4793
2SC2785-HFE
Letter side
2SC4927-01
2SD798A-P
2SD2012
2SD2061
2SD2096-EF
2SK1916-53-F
DAN202K
DAP202K
1S2836
DA204K
1SS226
DSL60

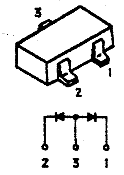
2096-EF



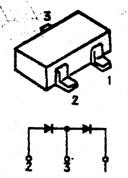
1916-53-F50



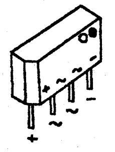
N202K
P202K
2836



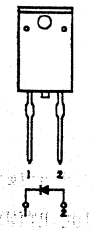
204K



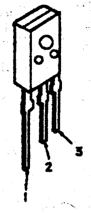
1SS226



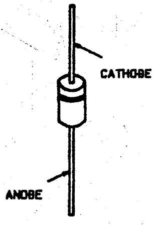
60



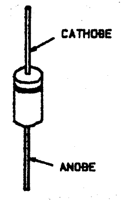
Ð10SC6M



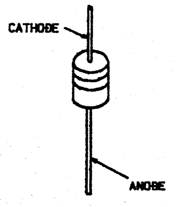
ÐGP20G
ERC25-06S
RGP02-20EL-6394
RU30ALFS1
RU3AM


CATHODE
ANODE

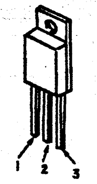
EL1Z
ERB44-06
GP08Ð
RGP10GPKG23
RGP15GPKG23
R2K-V1
1N4148A-T265


CATHODE
ANODE

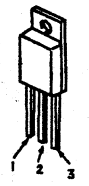
ERA85-009
MTZJ-T-77-12B
MTZJ-T-77-13C
MTZJ-T-77-15A
MTZJ-T-77-2.2A
MTZJ-T-77-3.6A
MTZJ-T-77-30B
MTZJ-T-77-33C
MTZJ-T-77-39C
MTZJ-T-77-5.6A
MTZJ-T-77-5.6B
MTZJ-T-77-7.5A
MTZJ-T-77-9.1
MTZN-1013
RÐ12ES-B2
RÐ5.6ES-B1
RÐ5.6ES-B2
RÐ6.2ES-B2
RÐ7.5ES-B2


CATHODE
ANODE

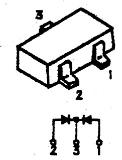
ESAB92-02



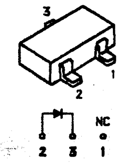
ESAC92M-02



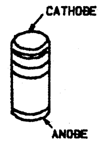
MA152WK



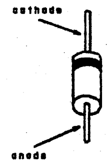
MA3030-H (TK)
MA3039H-TX
MA3047L-TX



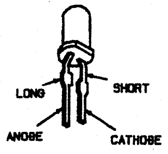
MA3051L-TX


CATHODE
ANODE

RGP02-17EL-6433


cathode
anode

LÐ201VR


LONG
SHORT
ANODE
CATHODE

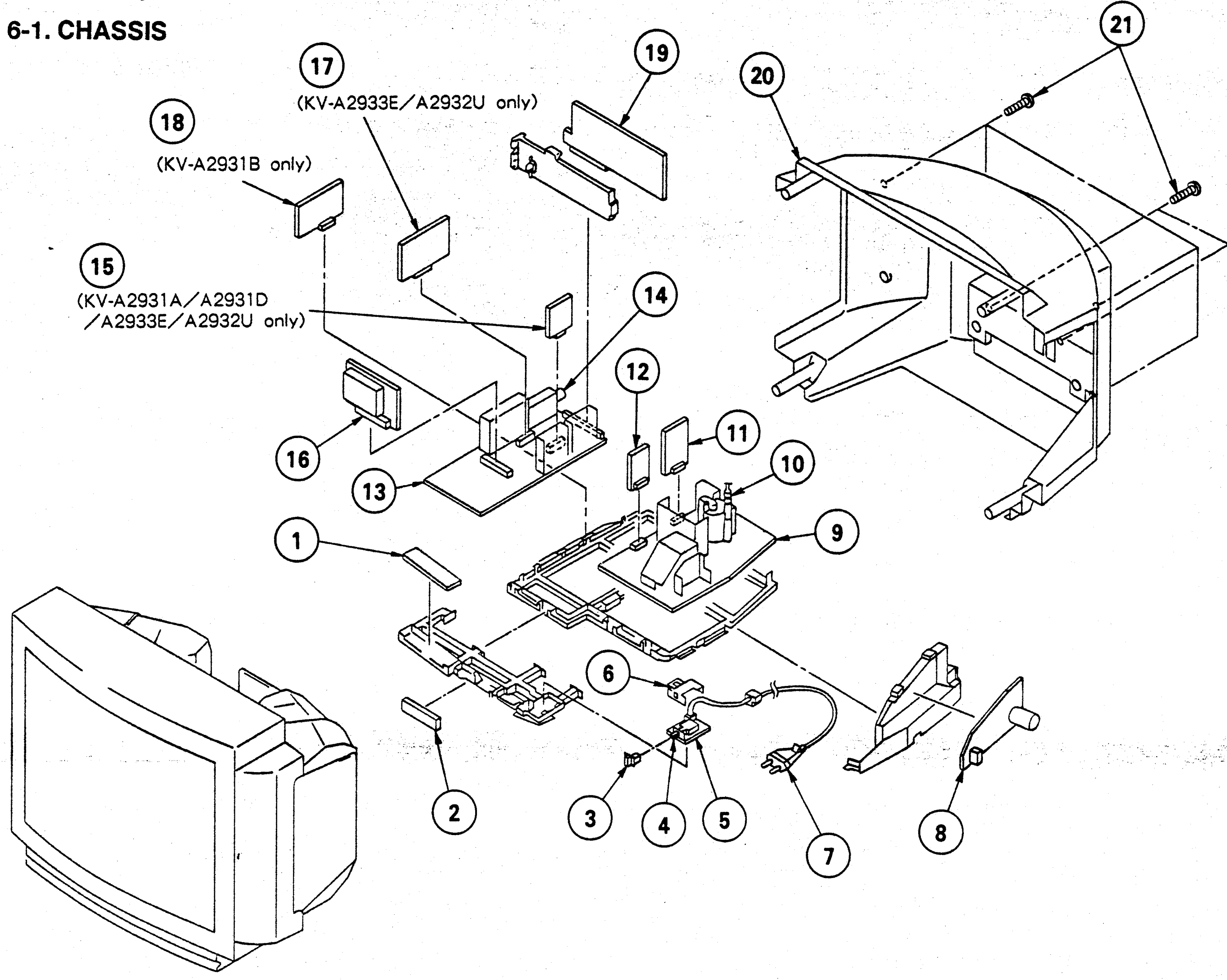
SECTION 6
EXPLODED VIEWS

NOTE:
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " ★ " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

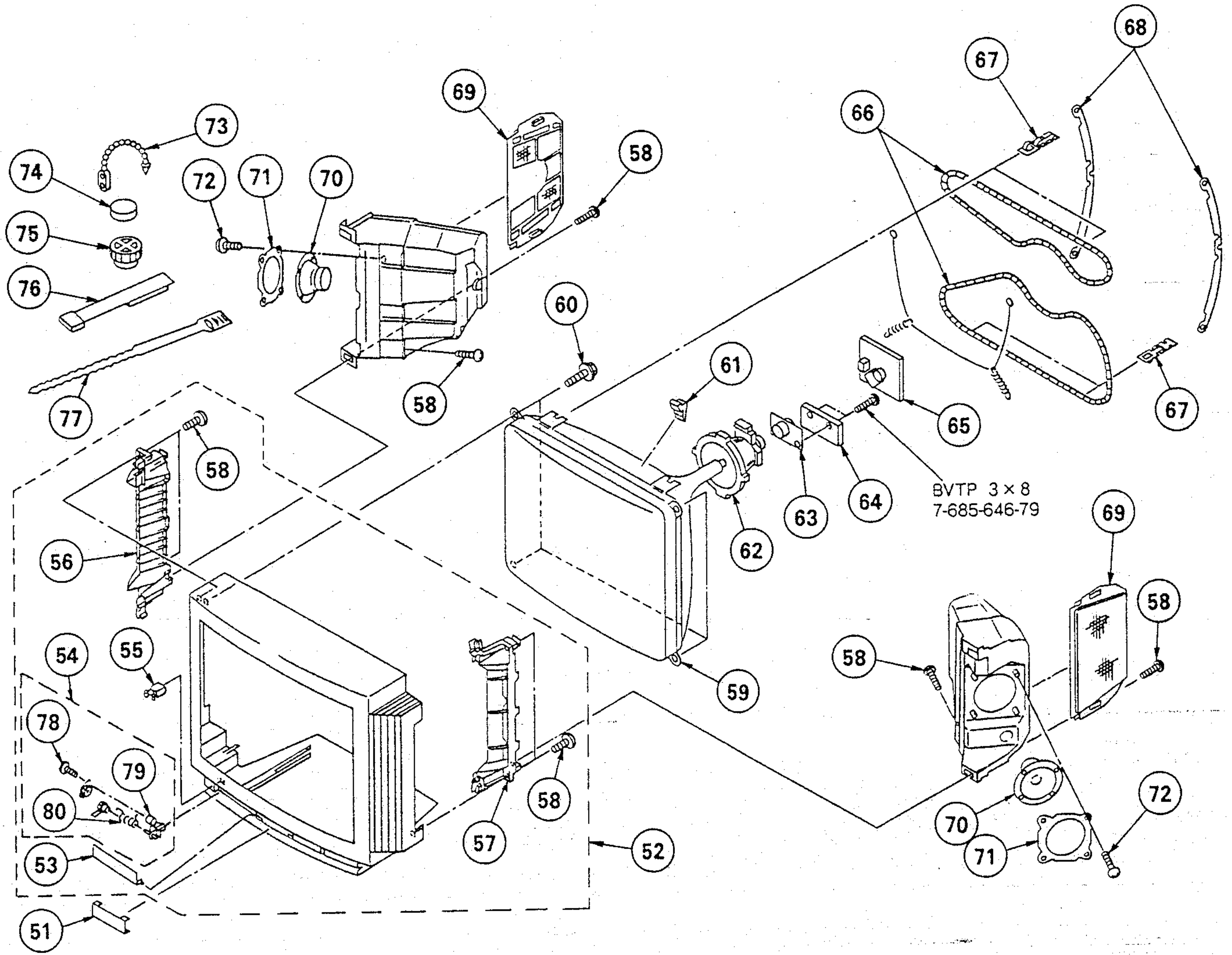
Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

6-1. CHASSIS


1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
(KV-A2931A/A2931D /A2933E/A2932U only)
16
17
(KV-A2933E/A2932U only)
18
(KV-A2931B only)
19
20
21

REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*1-648-314-11	H1 BOARD	
2	*1-648-475-11	H2 BOARD	
3	4-202-486-01	BUTTON, POWER	
4	⚠.1-571-433-11	SWITCH, PUSH (AC POWER)	
5	*A-1624-019-A	F1 BOARD, COMPLETE	
6	4-202-376-01	COVER, POWER SWITCH	
7	⚠.1-590-460-11	CORD, POWER(WITH CONNECTOR) 7.0A/250V (KV-A2931B,A2933E)	
	⚠.1-590-501-11	CORD, POWER(WITH NOISE FILTER) 2.5A/250V (KV-A2931D)	
	⚠.1-590-762-11	CORD, POWER(WITH PLUG) 2.5A/250V (KV-A2932U)	
	⚠.1-690-296-11	CORD, POWER(WITH NOISE FILTER) (KV-A2931A)	
8	*A-1624-018-A	F2 BOARD, COMPLETE	
9	*A-1642-097-A	D BOARD, COMPLETE	
10	⚠.1-453-153-11	TRANSFORMER ASSY, FLYBACK (NX-JU2602A2)	
11	*A-1640-102-A	D4 BOARD, COMPLETE	
12	*A-1640-109-A	D5 BOARD, COMPLETE	
13	*A-1632-146-A	A BOARD, COMPLETE (KV-A2931A,A2931D)	
	*A-1632-157-A	A BOARD, COMPLETE (KV-A2931B)	
	*A-1632-158-A	A BOARD, COMPLETE (KV-A2932U)	
	*A-1632-159-A	A BOARD, COMPLETE (KV-A2933E)	
14	⚠.1-693-184-11	TUNER (U944C) (KV-A2932U)	
	⚠.1-693-185-11	TUNER (UV916H) (KV-A2931A,A2931B,A2931D,A2933E)	
15	*A-1620-049-A	B BOARD, COMPLETE (KV-A2931A,A2931D,A2933E,A2932U)	
16	*A-1635-006-A	M1 BOARD, COMPLETE	
17	*A-1630-168-A	A1 BOARD, COMPLETE (KV-A2932U)	
	*A-1630-170-A	A1 BOARD, COMPLETE (KV-A2933E)	
18	*A-1622-006-A	P1 BOARD, COMPLETE (KV-A2931B)	
19	*A-1651-051-A	J BOARD, COMPLETE	
20	4-202-510-01	COVER, REAR	
21	4-039-358-11	SCREW (4X16), (+) BV TAPPING	

6-2. PICTURE TUBE



The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
51	4-202-492-01	WINDOW, ORNAMENTAL	
52	X-4200-138-1	CABINET ASSY (WITH BEZEL ASSY)	53~58,78~80
53	4-202-493-01	DOOR	
54	X-4031-244-1	DAMPER ASSY	78~80
55	4-392-036-01	CATCHER, PUSH	
56	*4-202-509-01	HOLDER (L), SPEAKER	
57	*4-202-508-01	HOLDER (R), SPEAKER	
58	4-039-358-01	SCREW (4X16), (+) BV TAPPING	
59	⚠ 8-733-841-05	PICTURE TUBE (M68KZT10X)	
60	4-036-188-01	SCREW (M), PT	
61	3-704-495-01	SPACER, DY	
62	⚠ 1-451-422-11	DEFLECTION YOKE (Y29GXA)	
63	⚠ 1-452-509-12	NECK ASSY, PICTURE TUBE (NA-308)	
64	*A-1644-040-A	VM BOARD, COMPLETE	
65	*A-1638-042-A	C BOARD, COMPLETE	
66	⚠ 1-406-807-21	COIL, DEMAGNETIZATION	
67	4-202-415-01	CLIP, DGC (29")	
68	4-202-416-01	BAND, DGC	
69	X-4200-136-1	GRILLE ASSY, SPEAKER	
70	1-544-475-21	SPEAKER	
71	4-202-469-01	CLAMP, SPEAKER	
72	4-039-358-11	SCREW (4X16), (+) BV TAPPING	
73	4-308-870-00	CLIP, LEAD WIRE	
74	1-452-032-00	MAGNET, DISK; 10MM ϕ	
75	1-452-094-00	MAGNET, ROTATABLE DISK; 15MM ϕ	
76	X-4387-214-1	PERMALLOY ASSY, CORRECTION	
77	3-701-007-00	BAND, BINDING	
78	4-033-184-01	SCREW, SPECIAL	
79	4-041-017-01	SHAFT (MAIN), DAMPER DOOR	
80	4-041-016-01	SPRING	
	4-200-433-01	SPRING, EXTENSION	

SECTION 7
ELECTRICAL PARTS LIST

B (KV-A2931A/ A2931D/ A2932U/A2933E)

NOTE:

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

When indicating parts by reference number, please include the board name.

CAPACITORS
- MF : μF, PF : μμF

COILS
- MMH : mH, UH : μH

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1620-049-A	B BOARD, COMPLETE ***************** (KV-A2931A,A2931D,A2933E,A2932U)	
		<CAPACITOR>	
C1301	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1302	1-126-101-11	ELECT 100MF 20% 16V	
C1303	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1304	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1305	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
C1306	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C1307	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1308	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C1309	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C1310	1-126-101-11	ELECT 100MF 20% 16V	
C1311	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1312	1-163-133-00	CERAMIC CHIP 470PF 5% 50V	
C1313	1-124-917-11	ELECT 33MF 20% 50V	
C1314	1-126-101-11	ELECT 100MF 20% 16V	
C1315	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1316	1-126-101-11	ELECT 100MF 20% 16V	
C1317	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1318	1-124-910-11	ELECT 47MF 20% 50V	
C1319	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1320	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V	
C1321	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1322	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1323	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1324	1-126-101-11	ELECT 100MF 20% 16V	
C1325	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1326	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1327	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1328	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1329	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1330	1-163-038-00	CERAMIC CHIP 0.1MF 25V	
C1331	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1332	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C1333	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
		<CONNECTOR>	
CN0302	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P	
		<DIODE>	
D1301	8-719-400-18	DIODE MA152WK	
		<FILTER>	
FL1301	1-239-550-41	FILTER, LOW PASS	
FL1302	1-239-550-41	FILTER, LOW PASS	
FL1303	1-239-550-41	FILTER, LOW PASS	
FL1304	1-236-164-11	ENCAPSULATED COMPONENT	
		<IC>	
IC1301	8-752-357-88	IC CXD2024Q-TL	
		<COIL>	
L1301	1-408-405-00	INDUCTOR 4.7UH	
L1302	1-408-403-00	INDUCTOR 3.3UH	
L1303	1-408-405-00	INDUCTOR 4.7UH	
L1304	1-408-405-00	INDUCTOR 4.7UH	
		<TRANSISTOR>	
Q1301	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1302	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1303	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1304	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1305	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1306	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1307	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1308	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1310	8-729-216-22	TRANSISTOR 2SA1162-G	
		<RESISTOR>	
R1301	1-216-053-00	METAL GLAZE 1.5K 5% 1/10W	
R1302	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R1303	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R1304	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R1305	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R1306	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1307	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R1308	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R1309	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R1310	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R1311	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1312	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R1313	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R1314	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R1315	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1316	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R1317	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R1318	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R1319	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R1320	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R1321	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1322	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R1324	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	

B (KV-A2931A/ A2931D/ A2932U/A2933E) **P1** (KV-A2931B)

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1325	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1326	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1327	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1330	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R1331	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1332	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R1333	1-216-666-11	METAL CHIP	4.3K	0.50%	1/10W	
R1334	1-216-635-11	METAL CHIP	220	0.50%	1/10W	
R1335	1-216-637-11	METAL CHIP	270	0.50%	1/10W	
R1336	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R1337	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W	
R1338	1-216-657-11	METAL CHIP	1.8K	0.50%	1/10W	
R1339	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1342	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1343	1-216-035-00	METAL GLAZE	270	5%	1/10W	

****

*A-1622-006-A P1 BOARD, COMPLETE (KV-A2931B)
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1401	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1402	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1403	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C1404	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V
C1405	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C1406	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C1407	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1408	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C1409	1-124-903-11	ELECT	1MF	20%	50V
C1410	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1411	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1412	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1414	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C1416	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C1417	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C1419	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1420	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1421	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1422	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1423	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1424	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1425	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C1426	1-163-124-00	CERAMIC CHIP	200PF	5%	50V
C1427	1-124-916-11	ELECT	22MF	20%	50V
C1428	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1430	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1431	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1432	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1433	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1434	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1435	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1437	1-164-343-11	CERAMIC CHIP	0.056MF	10%	25V
C1438	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C1439	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C1440	1-163-245-11	CERAMIC CHIP	56PF	5%	50V
C1441	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1442	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1443	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1444	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1445	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1446	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1447	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1448	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C1449	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C1450	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1451	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1452	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1453	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1454	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1455	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C1456	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C1457	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1458	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C1459	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C1460	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C1461	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1462	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1463	1-126-101-11	ELECT	100MF	20%	16V
C1464	1-126-101-11	ELECT	100MF	20%	16V
C1465	1-126-101-11	ELECT	100MF	20%	16V
C1466	1-126-101-11	ELECT	100MF	20%	16V
C1467	1-126-101-11	ELECT	100MF	20%	16V
C1468	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C1469	1-164-505-11	CERAMIC CHIP	2.2MF		16V
C1471	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1472	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1473	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1481	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C1482	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C1491	1-163-251-11	CERAMIC CHIP	100PF	5%	50V

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1514	*1-568-879-11	PIN, CONNECTOR 4P	
CN1515	*1-564-516-11	PLUG, CONNECTOR 13P	
CN1516	*1-568-879-11	PIN, CONNECTOR 4P	
CN1538	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1401	8-719-401-41	DIODE MA3051L-TX	

<FILTER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
FL1403	1-236-071-11	ENCAPSULATED COMPONENT	
FL1404	1-236-071-11	ENCAPSULATED COMPONENT	
FL1405	1-236-071-11	ENCAPSULATED COMPONENT	
FL1406	1-236-071-11	ENCAPSULATED COMPONENT	
FL1407	1-236-071-11	ENCAPSULATED COMPONENT	
FL1408	1-236-071-11	ENCAPSULATED COMPONENT	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1401	8-759-073-16	IC TDA9160/N2	
IC1402	8-759-086-97	IC TDA4661T/V2	
IC1403	8-759-183-56	IC SDA9187-GEG	
IC1404	8-759-183-57	IC SDA9188-GEG	
IC1405	8-759-046-27	IC SDA9086-3	
IC1406	8-759-183-36	IC TDA8443B	
IC1410	8-759-037-45	IC MC78L08ACPRP	
IC1411	8-759-708-05	IC NJM78L05A	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L1401	1-408-418-00	INDUCTOR	56UH	
L1405	1-408-407-00	INDUCTOR	6.8UH	

P1 (KV-A2931B) | F2

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
L1406	1-408-407-00	INDUCTOR	6.8UH			

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1402	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1403	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1404	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1405	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1406	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1407	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1408	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1409	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1413	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1414	8-729-900-53	TRANSISTOR DTC114EK	
Q1416	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1417	8-729-900-53	TRANSISTOR DTC114EK	
Q1419	8-729-900-53	TRANSISTOR DTC114EK	
Q1421	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1422	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1425	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1426	8-729-900-53	TRANSISTOR DTC114EK	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR1401	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1401	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1402	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1403	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1404	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1405	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1406	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R1407	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1408	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1410	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R1411	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1412	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1413	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1414	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1415	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1416	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1417	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1418	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1419	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R1421	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1422	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R1424	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1425	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1426	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1427	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1429	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R1430	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1431	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1434	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R1435	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R1436	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R1437	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1438	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R1439	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R1441	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1442	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1443	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1444	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1445	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R1446	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1449	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1450	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1453	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1454	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1455	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1456	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1458	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1462	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1463	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1468	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1469	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1471	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1481	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1483	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R1484	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1485	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R1486	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1487	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R1493	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R1494	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R1495	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1496	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1497	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1498	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1499	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

<CRYSTAL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
X1401	1-567-505-11	OSCILLATOR, CRYSTAL	
X1402	1-567-504-11	OSCILLATOR, CRYSTAL	

****

*A-1624-018-A F2 BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C661 ⚠	1-136-519-12	FILM	0.47MF	20%	300V	
C662 ⚠	1-136-518-12	FILM	0.33MF	20%	300V	
C664 ⚠	1-164-246-61	CERAMIC	0.0022MF	20%	400V	
C666	1-124-920-11	ELECT	330MF	20%	50V	
C667	1-126-233-11	ELECT	22MF	20%	50V	
C672 ⚠	1-161-964-61	CERAMIC	0.0047MF	[illegible]	250V	
C673 ⚠	1-161-964-61	CERAMIC	0.0047MF	[illegible]	250V	
C674	1-125-318-00	ELECT(BLOCK)	220MF	20%	400V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN0005	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CN0007	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN0924*	1-568-878-51	PIN, CONNECTOR 3P	
CN0925*	1-695-294-11	PIN, CONNECTOR (PC BOARD) 6P	
CN0929	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN0931⚠*	1-691-291-11	PIN, CONNECTOR (PC BOARD) 5P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D661	8-719-911-19	DIODE 1SS119	
D663	8-719-510-63	DIODE D4SB60L-F	
D664	8-719-109-89	DIODE RD5.6ESB2	

<TRANSFORMER>

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

F2 F1 A1 (KV-A2932U A2933E)

REF.NO.	PART NO.	DESCRIPTION	REMARK
LF661⚠	1-424-688-11	COIL, LINE FILTER	
LF662⚠	1-424-391-11	TRANSFORMER, LINE FILTER	
LF663⚠	1-421-862-11	LFT	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q661	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
R663 ⚠	1-244-945-91	CARBON 1M 5% 1/2W	
R664 ⚠	1-205-949-11	WIREWOUND 1.8 5% 10W	F
R665 ⚠	1-218-265-91	METAL GLAZE 8.2M 5% 1W	
R666	1-249-405-11	CARBON 100 5% 1/4W	F
R667	1-249-430-11	CARBON 12K 5% 1/4W	
R668	1-249-436-11	CARBON 39K 5% 1/4W	
R669 ⚠	1-205-949-11	WIREWOUND 1.8 5% 10W	F
R671	1-249-417-11	CARBON 1K 5% 1/4W	F

<RELAY>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RY661⚠	1-515-720-31	RELAY	

<THERMISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
THP661⚠	1-809-827-11	THERMISTOR, POSITIVE	

****

*A-1624-019-A F1 BOARD, COMPLETE
****

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN0003⚠	*1-580-844-11	PIN, CONNECTOR (POWER)	
CN0831⚠	*1-695-292-11	PIN, CONNECTOR (POWER)	

<FUSE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
F651 ⚠	1-576-232-21	FUSE (H.B.C.) 5A/250V	
	1-533-230-11	HOLDER, FUSE; F651	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S651 ⚠	1-571-433-12	SWITCH, PUSH (AC POWER)	

****

*A-1630-168-A A1 BOARD, COMPLETE (KV-A2932U)
****
*A-1630-170-A A1 BOARD, COMPLETE (KV-A2933E)
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C1101	1-126-101-11	ELECT 100MF 20% 16V	
C1102	1-126-101-11	ELECT 100MF 20% 16V	
C1103	1-163-077-00	CERAMIC CHIP 0.1MF 50V	
C1104	1-163-077-00	CERAMIC CHIP 0.1MF 10% 25V	
C1105	1-164-489-11	CERAMIC CHIP 0.22MF 10% 16V	
C1106	1-163-383-91	CERAMIC CHIP 180PF 5% 50V	
C1107	1-163-009-11	CERAMIC CHIP 0.001MF 10% 50V	
C1108	1-163-059-00	CERAMIC CHIP 0.01MF 50V	
C1109	1-163-033-00	CERAMIC CHIP 0.022MF 50V	
C1110	1-164-336-11	CERAMIC CHIP 0.33MF 25V	
C1111	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C1112	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C1113	1-124-477-11	ELECT 47MF 20%	16V
C1114	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1115	1-124-477-11	ELECT 47MF 20%	16V
C1116	1-106-228-00	MYLAR 0.22MF 10%	100V
C1117	1-163-081-00	CERAMIC CHIP 0.22MF	25V
C1118	1-163-113-00	CERAMIC CHIP 68PF 5%	50V
C1119	1-163-129-00	CERAMIC CHIP 330PF 5%	50V
C1120	1-163-193-00	CERAMIC CHIP 330PF 5%	50V
C1121	1-163-113-00	CERAMIC CHIP 68PF 5%	50V
C1122	1-163-081-00	CERAMIC CHIP 0.22MF	25V
C1123	1-106-228-00	MYLAR 0.22MF 10%	100V
C1124	1-124-477-11	ELECT 47MF 20%	16V
C1125	1-124-477-11	ELECT 47MF 20%	16V
C1126	1-163-077-00	CERAMIC CHIP 0.1MF 10%	25V
C1127	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1128	1-124-477-11	ELECT 47MF 20%	16V
C1129	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1130	1-163-205-00	CERAMIC CHIP 0.001MF 10%	50V
C1131	1-163-059-00	CERAMIC CHIP 0.01MF	50V
C1132	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1133	1-124-907-11	ELECT 10MF 20%	50V
C1134	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C1135	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1136	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C1137	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1138	1-163-105-00	CERAMIC CHIP 33PF 5%	50V
C1139	1-163-105-00	CERAMIC CHIP 33PF 5%	50V
C1140	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C1141	1-163-205-00	CERAMIC CHIP 0.001MF 5%	50V
C1142	1-163-057-00	CERAMIC CHIP 0.0068MF	50V
C1143	1-163-003-11	CERAMIC CHIP 330PF 10%	50V
C1144	1-163-121-00	CERAMIC CHIP 150PF 5%	50V
C1145	1-163-121-00	CERAMIC CHIP 150PF 5%	50V
C1146	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1147	1-124-477-11	ELECT 47MF 20%	16V
C1148	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C1149	1-124-477-11	ELECT 47MF 20%	16V
C1150	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1151	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1152	1-124-477-11	ELECT 47MF 20%	16V
C1153	1-163-087-00	CERAMIC CHIP 4PF 0.25PF	50V
C1154	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1155	1-124-477-11	ELECT 47MF 20%	16V
C1156	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C1157	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C1158	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C1159	1-163-243-11	CERAMIC CHIP 47PF 5%	50V

<FILTER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
BP1101	1-236-238-12	FILTER, BAND PASS (KV-A2932U)	
	1-239-047-11	FILTER, BAND PASS (KV-A2933E)	
CF1101	1-409-333-00	TRAP, CERAMIC (6.0MHZ) (KV-A2932U)	
CF1102	1-404-134-00	TRAP, CERAMIC (5.5MHZ) (KV-A2933E)	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN0201	1-695-300-11	CONNECTOR, BOARD TO BOARD 20P	

<DIODE>

A1 (KV-A2932U A2933E) A

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1101	8-719-104-34	DIODE 1S2836	
D1102	8-719-027-70	DIODE 1SV217-TPH3	
D1103	8-719-820-71	DIODE 1SV214	
		<FERRITE BEAD>	
FB1101	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB1102	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB1103	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB1104	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
FB1105	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
		<IC>	
IC1101	8-759-511-88	IC TDA8732	
IC1102	8-759-184-28	IC SAA7282-ZP	
		<COIL>	
L1101	1-408-405-00	INDUCTOR 4.7UH	
L1102	1-408-405-00	INDUCTOR 4.7UH	
L1103	1-410-119-11	INDUCTOR 1MMH	
L1104	1-410-119-11	INDUCTOR 1MMH	
L1105	1-408-605-21	INDUCTOR 1MMH (KV-A2932U)	
		<TRANSISTOR>	
Q1101	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1102	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1103	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1104	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1105	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1106	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1107	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1108	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		<RESISTOR>	
JR1101	1-216-296-91	METAL GLAZE 0 5% 1/8W	(KV-A2533E)
JR1102	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR1103	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR1104	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JW1101	1-535-143-31	LEAD, JUMPER (15.0MM)	
JW1102	1-535-303-00	LEAD, JUMPER (10.0MM)	
JW1103	1-535-303-00	LEAD, JUMPER (10.0MM)	
JW1104	1-535-143-31	LEAD, JUMPER (15.0MM)	
R1101	1-216-188-00	METAL GLAZE 390 5% 1/8W	
R1102	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1103	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1104	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1105	1-216-005-00	METAL GLAZE 15 5% 1/10W	
R1106	1-216-185-00	METAL GLAZE 300 5% 1/8W	
R1107	1-216-042-00	METAL GLAZE 510 5% 1/10W	
R1108	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R1109	1-216-202-00	METAL GLAZE 1.5K 5% 1/8W	
R1110	1-216-196-00	METAL GLAZE 820 5% 1/8W	
R1111	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R1112	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R1113	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R1114	1-216-105-00	METAL GLAZE 220K 5% 1/10W	
R1115	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R1116	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1117	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1118	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1119	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R1120	1-216-232-00	METAL GLAZE 27K 5% 1/8W	
R1121	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1122	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R1123	1-216-158-00	METAL GLAZE 22 5% 1/8W	
R1124	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R1125	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1126	1-216-218-00	METAL GLAZE 6.8K 5% 1/8W	
R1127	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1128	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R1129	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R1130	1-216-246-91	METAL GLAZE 100K 5% 1/8W	
R1131	1-216-218-00	METAL GLAZE 6.8K 5% 1/8W	
R1132	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1133	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R1134	1-216-212-00	METAL GLAZE 3.9K 5% 1/8W	
R1135	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1136	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R1137	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R1138	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R1139	1-216-005-00	METAL GLAZE 15 5% 1/10W	
R1140	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R1141	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R1142	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R1143	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1144	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1145	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R1146	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1147	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R1148	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1149	1-216-001-00	METAL GLAZE 10 5% 1/10W	
R1150	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R1151	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1152	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1153	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R1154	1-216-041-00	METAL GLAZE 470 5% 1/10W	
		<CRYSTAL>	
X1101	1-579-689-21	VIBRATOR, CRYSTAL	
X1102	1-579-282-21	VIBRATOR, CRYSTAL (KV-A2933E)	
X1102	1-579-283-11	VIBRATOR, CRYSTAL (KV-A2932U)	

****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*A-1632-146-A	A BOARD, COMPLETE (KV-A2931A,A2931D) *****************	
	*A-1632-157-A	A BOARD, COMPLETE (KV-A2931B) *****************	
	*A-1632-158-A	A BOARD, COMPLETE (KV-A2932U) *****************	
	*A-1632-159-A	A BOARD, COMPLETE (KV-A2933E) *****************	
	4-200-001-01	HOLDER, IC	
	4-201-023-01	SPACER, INSULATING	
	4-812-134-00	RIVET NYLON, 3.5	
		<CAPACITOR>	
C071	1-126-108-11	ELECT 56MF 20% 16V	
C072	1-124-120-11	ELECT 220MF 20% 16V	
C074	1-163-001-11	CERAMIC CHIP 220PF 10% 50V	
C102	1-126-103-11	ELECT 470MF 20% 16V	
C103	1-163-031-11	CERAMIC CHIP 0.01MF 50V	
C104	1-124-910-11	ELECT 47MF 20% 50V	

A

REF.NO.	PART NO.	DESCRIPTION			REMARK
C105	1-124-916-11	ELECT	22MF	20%	50V
C106	1-124-927-11	ELECT	4.7MF	20%	50V
C110	1-124-478-11	ELECT	100MF	20%	25V
C120	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C201	1-130-489-00	FILM	0.033MF	5%	50V
C202	1-130-489-00	FILM	0.033MF	5%	50V
C203	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C204	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C205	1-124-907-11	ELECT	10MF	20%	50V
C206	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C207	1-137-613-11	FILM	0.0018MF	2%	100V
C208	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C209	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C210	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C213	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C214	1-163-023-00	CERAMIC CHIP	0.015MF	10%	50V
C215	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C216	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C217	1-124-925-11	ELECT	2.2MF	20%	50V
C218	1-124-925-11	ELECT	2.2MF	20%	50V
C219	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C220	1-163-011-11	CERAMIC CHIP	0.0015MF	10%	50V
C221	1-124-925-11	ELECT	2.2MF	20%	50V
C222	1-124-925-11	ELECT	2.2MF	20%	50V
C223	1-136-177-00	FILM	1MF	5%	50V
C224	1-136-177-00	FILM	1MF	5%	50V
C225	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C226	1-163-007-11	CERAMIC CHIP	680PF	10%	50V
C227	1-124-907-11	ELECT	10MF	20%	50V
C228	1-124-907-11	ELECT	10MF	20%	50V
C229	1-124-478-11	ELECT	100MF	20%	25V
C230	1-124-478-11	ELECT	100MF	20%	25V
C231	1-164-346-11	CERAMIC CHIP	1MF		16V
C232	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C233	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C234	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C235	1-130-772-00	FILM	0.22MF	5%	63V
C236	1-124-618-11	ELECT	2200MF	20%	35V
C237	1-124-618-11	ELECT	2200MF	20%	35V
C238	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C239	1-130-772-00	FILM	0.22MF	5%	63V
C240	1-124-916-11	ELECT	22MF	20%	50V
C241	1-124-916-11	ELECT	22MF	20%	50V
C242	1-124-903-11	ELECT	1MF	20%	50V
C244	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C248	1-163-185-00	CERAMIC CHIP	150PF	5%	50V
C249	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C251	1-126-320-11	ELECT	10MF	20%	16V
C254	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C255	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C256	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C257	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C301	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C302	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C303	1-164-337-11	CERAMIC CHIP	2.2MF		16V
C304	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C305	1-163-096-00	CERAMIC CHIP	13PF	5%	50V
C306	1-163-097-00	CERAMIC CHIP	15PF	5%	50V
C307	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C308	1-163-809-11	CERAMIC CHIP	0.047MF	10%	25V
C309	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C310	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C311	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C312	1-124-910-11	ELECT	47MF	20%	50V
C313	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C314	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C315	1-124-910-11	ELECT	47MF	20%	50V
C316	1-163-077-00	CERAMIC CHIP	0.1MF		50V
C317	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C318	1-163-103-00	CERAMIC CHIP	27PF	5%	50V
C319	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C320	1-124-910-11	ELECT	47MF	20%	50V
C321	1-163-038-00	CERAMIC CHIP	0.1MF		25V
C322	1-124-916-11	ELECT	22MF	20%	50V
C323	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C324	1-124-910-11	ELECT	47MF	20%	50V
C325	1-163-111-00	CERAMIC CHIP	56PF	5%	50V
C341	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C342	1-163-077-00	CERAMIC CHIP	0.1MF	10%	25V
C343	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C344	1-162-638-11	CERAMIC CHIP	1MF		16V
C345	1-164-346-11	CERAMIC CHIP	1MF		16V
C347	1-162-638-11	CERAMIC CHIP	1MF		16V
C348	1-164-346-11	CERAMIC CHIP	1MF		16V
C349	1-164-346-11	CERAMIC CHIP	1MF		16V
C350	1-124-907-11	ELECT	10MF	20%	50V
C351	1-124-443-00	ELECT	100MF	20%	10V
C353	1-164-346-11	CERAMIC CHIP	1MF		16V
C354	1-164-346-11	CERAMIC CHIP	1MF		16V
C355	1-162-638-11	CERAMIC CHIP	1MF		16V
C356	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C357	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V
C358	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V
C359	1-124-907-11	ELECT	10MF	20%	50V
C361	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C362	1-130-772-00	FILM	0.22MF	5%	63V
C363	1-124-907-11	ELECT	10MF	20%	50V
C365	1-124-120-11	ELECT	220MF	20%	16V
C366	1-124-903-11	ELECT	1MF	20%	50V
C368	1-163-105-00	CERAMIC CHIP	33PF	5%	50V
C369	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C401	1-164-005-11	CERAMIC CHIP	0.47MF		16V
C402	1-124-917-11	ELECT	33MF	20%	50V
C403	1-162-637-11	CERAMIC CHIP	0.47MF		16V
C411	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C412	1-164-005-11	CERAMIC CHIP	0.47MF		25V
C421	1-124-910-11	ELECT	47MF	20%	50V
C422	1-124-910-11	ELECT	47MF	20%	50V
C423	1-101-004-00	CERAMIC	0.01MF		50V
C424	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C425	1-163-129-00	CERAMIC CHIP	330PF	5%	50V
C426	1-124-910-11	ELECT	47MF	20%	50V
C427	1-164-346-11	CERAMIC CHIP	1MF		16V
C428	1-164-346-11	CERAMIC CHIP	1MF		16V
C429	1-124-119-00	ELECT	330MF	20%	16V
C574	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C575	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V
C576	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V
C581	1-163-031-11	CERAMIC CHIP	0.01MF		50V
C582	1-124-916-11	ELECT	22MF	20%	50V
C583	1-163-133-00	CERAMIC CHIP	470PF	5%	50V
C585	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C586	1-163-063-00	CERAMIC CHIP	0.022MF	10%	50V
C587	1-124-903-11	ELECT	1MF	20%	50V
C588	1-164-346-11	CERAMIC CHIP	1MF		16V
C589	1-126-103-11	ELECT	470MF	20%	16V
C590	1-124-916-11	ELECT	22MF	20%	50V

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A

REF.NO.	PART NO.	DESCRIPTION	REMARK
C591	1-124-925-11	ELECT 2.2MF 20%	50V
C592	1-163-017-00	CERAMIC CHIP 0.0047MF 10%	50V
C593	1-164-182-11	CERAMIC CHIP 0.0033MF 10%	50V
C595	1-163-109-00	CERAMIC CHIP 47PF 5%	50V
C599	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
C644	1-124-598-11	ELECT 22MF 20%	25V
C681	1-124-478-11	ELECT 100MF 20%	25V
C682	1-126-516-11	ELECT 120MF 20%	16V
C683	1-124-478-11	ELECT 100MF 20%	25V
C684	1-124-478-11	ELECT 100MF 20%	25V
C685	1-124-478-11	ELECT 100MF 20%	25V
C686	1-163-038-00	CERAMIC CHIP 0.1MF	25V

<FILTER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CF581	1-577-611-11	OSCILALTOR, CERAMIC	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN0001*	1-568-880-51	PIN, CONNECTOR 5P	
CN0101	1-695-297-11	CONNECTOR, BOARD TO BOARD 20P (KV-A2933E, A2932U)	
CN0102	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P (KV-A2931A,A2931D,A2933E,A2932U)	
CN0103*	1-564-511-11	PLUG, CONNECTOR 8P	
CN0104*	1-564-511-11	PLUG, CONNECTOR 8P	
CN0105*	1-568-880-51	PIN, CONNECTOR 5P	
CN0106*	1-568-880-51	PIN, CONNECTOR 5P	
CN0107*	1-568-879-11	PIN, CONNECTOR 4P	
CN0108*	1-568-878-51	PIN, CONNECTOR 3P	
CN0109	1-695-299-11	CONNECTOR, BOARD TO BOARD 50P	
CN0110*	1-568-882-51	PIN, CONNECTOR 7P	
CN0113	1-695-298-11	CONNECTOR, BOARD TO BOARD 40P	
CN0114*	1-568-879-11	PIN, CONNECTOR 4P (KV-A2931B)	
CN0115*	1-564-516-11	PLUG, CONNECTOR 13P (KV-A2931B)	
CN0116*	1-568-879-11	PIN, CONNECTOR 4P (KV-A2931B)	
CN0119*	1-568-879-11	PIN, CONNECTOR 4P	
CN5108*	1-564-513-11	PLUG, CONNECTOR 10P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D068	8-719-104-34	DIODE 1S2836	
D069	8-719-104-34	DIODE 1S2836	
D071	8-719-109-89	DIODE RD5.6ESB2	
D073	8-719-109-89	DIODE RD5.6ESB2	
D075	8-719-400-18	DIODE MA152WK	
D077	8-719-400-18	DIODE MA152WK	
D078	8-719-109-89	DIODE RD5.6ESB2	
D079	8-719-109-89	DIODE RD5.6ESB2	
D101	8-719-982-27	DIODE MTZJ-33C	
D206	8-719-400-18	DIODE MA152WK	
D207	8-719-921-89	DIODE MTZJ-13C	
D208	8-719-911-19	DIODE 1SS119	
D209	8-719-911-19	DIODE 1SS119	
D210	8-719-911-19	DIODE 1SS119	
D211	8-719-911-19	DIODE 1SS119	
D212	8-719-911-19	DIODE 1SS119	
D213	8-719-400-18	DIODE MA152WK	
D214	8-719-800-76	DIODE 1SS226	
D301	8-719-400-18	DIODE MA152WK	
D302	8-719-104-34	DIODE 1S2836	
D304	8-719-109-89	DIODE RD5.6ESB2	
D305	8-719-400-18	DIODE MA152WK	
D306	8-719-400-18	DIODE MA152WK	
D307	8-719-400-18	DIODE MA152WK	
D308	8-719-800-76	DIODE 1SS226	
D311	8-719-800-76	DIODE 1SS226	
D312	8-719-104-34	DIODE 1S2836	
D313	8-719-400-18	DIODE MA152WK	
D381	8-719-110-03	DIODE RD7.5ESB2	
D401	8-719-921-69	DIODE MTZJ-9.1	
D403	8-719-921-69	DIODE MTZJ-9.1	
D405	8-719-921-69	DIODE MTZJ-9.1	
D406	8-719-921-69	DIODE MTZJ-9.1	
D407	8-719-921-69	DIODE MTZJ-9.1	
D571	8-719-800-76	DIODE 1SS226	
D681	8-719-921-75	DIODE MTZN-10B	
D683	8-719-104-34	DIODE 1S2836	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC072	8-759-184-27	IC ST24C16CB1	
IC201	8-759-073-30	IC TDA6612 (KV-A2931A, A2931B, A2931D, A2933E)	
IC201	8-759-073-31	IC TDA6622 (KV-2932U)	
IC202	8-759-502-21	IC TDA2822M	
IC251	8-759-072-99	IC TDA2052	
IC261	8-759-072-99	IC TDA2052	
IC301	8-759-189-90	IC TDA9145/N2B	
IC302	8-759-084-91	IC TDA4661/V2	
IC304	8-752-056-54	IC CXA1587S	
IC401	8-752-062-86	IC CXA1545AS	
IC402	8-759-073-00	IC TEA2114	
IC681	8-759-072-98	IC TDA8138A	
IC684	8-759-701-59	IC NJM78M09FA	
IC685	8-759-510-52	IC TEA7605	

<IF BLOCK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IFB101	1-466-733-11	IF BLOCK (IFH-389) (KV-A2931A,A2931D,A2933E)	
	1-466-734-11	IF BLOCK (IFH-395) (KV-A2932U)	
	1-466-735-11	IF BLOCK (IFH-389F) (KV-A2931B)	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L101	1-412-546-41	INDUCTOR 560UH	
L102	1-408-413-00	INDUCTOR 22UH	
L201	1-407-500-00	INDUCTOR 4.7MMH	
L306	1-408-405-00	INDUCTOR 4.7UH	
L307	1-408-405-00	INDUCTOR 4.7UH	
L309	1-408-411-00	INDUCTOR 15UH	
L310	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
L575	1-408-397-00	INDUCTOR 1UH	
L611	1-412-539-41	INDUCTOR 150UH	
L681	1-412-539-41	INDUCTOR 150UH	

<IC LINK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
PS681⚠	1-532-605-91	LINK, IC 0.4A	
PS682⚠	1-532-605-91	LINK, IC 0.4A	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q071	8-729-901-05	TRANSISTOR DTA124EK	
Q101	8-729-216-22	TRANSISTOR 2SA1162-G	
Q102	8-729-901-00	TRANSISTOR DTC124EK	
Q103	8-729-900-53	TRANSISTOR DTC114EK	
Q201	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q202	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q203	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q204	8-729-216-22	TRANSISTOR 2SA1162-G	
Q205	8-729-216-22	TRANSISTOR 2SA1162-G	
Q206	8-729-216-22	TRANSISTOR 2SA1162-G	
Q207	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q209	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q210	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q301	8-729-901-00	TRANSISTOR DTC124EK	
Q302	8-729-216-22	TRANSISTOR 2SA1162-G	
Q303	8-729-216-22	TRANSISTOR 2SA1162-G	
Q304	8-729-900-53	TRANSISTOR DTC114EK	
Q305	8-729-901-01	TRANSISTOR DTC144EK	
Q306	8-729-216-22	TRANSISTOR 2SA1162-G	
Q308	8-729-216-22	TRANSISTOR 2SA1162-G	
Q309	8-729-931-02	TRANSISTOR 2SC2413KQ	
Q311	8-729-901-06	TRANSISTOR DTA144EK	
Q312	8-729-900-53	TRANSISTOR DTC114EK	
Q313	8-729-216-22	TRANSISTOR 2SA1162-G	
Q314	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q315	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q401	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q403	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q404	8-729-120-28	TRANSISTOR 2SC1623-L5L6 (KV-A2931B)	
Q581	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q582	8-729-216-22	TRANSISTOR 2SA1162-G	
Q610	8-729-140-97	TRANSISTOR 2SB734-34	
Q681	8-729-109-53	TRANSISTOR 2SD795A-P	
Q682	8-729-900-53	TRANSISTOR DTC114EK	
		<RESISTOR>	
JR101	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR102	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR104	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR106	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR107	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR111	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR112	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR113	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR114	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR115	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR116	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR117	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR118	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR119	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR120	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR121	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR122	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR123	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR125	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR127	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR129	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR130	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR131	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR132	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR133	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR134	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR136	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR137	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR138	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR140	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR141	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR142	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR143	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR144	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR145	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR150	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR151	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR152	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR201	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR202	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR203	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR204	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR205	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR206	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR207	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR208	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR209	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR210	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR211	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR212	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR213	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR214	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR215	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR216	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR217	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR218	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR219	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR220	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR221	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR222	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR223	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR225	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR226	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR227	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR228	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR229	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR230	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR231	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR232	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR233	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR235	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR236	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR237	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR238	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR239	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR240	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR241	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR242	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR243	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR245	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR246	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR247	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR248	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR249	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR250	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR251	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR252	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR253	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR254	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR255	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR256	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR257	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR258	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR270	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR272	1-216-295-00	METAL GLAZE 0 5% 1/10W	

A

REF.NO.	PART NO.	DESCRIPTION				REMARK
R071	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R072	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R073	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R074	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R076	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R077	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R101	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R102	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R103	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R105	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R108	1-216-230-00	METAL GLAZE	22K	5%	1/8W	
R115	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R201	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R202	1-216-653-11	METAL CHIP	1.2K	0.50%	1/10W	
R203	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R204	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R205	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R206	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R207	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R208	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R209	1-249-377-11	CARBON	0.47	5%	1/4W	F
R210	1-247-734-11	CARBON	39	5%	1/2W	
R211	1-247-734-11	CARBON	39	5%	1/2W	
R212	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R213	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R214	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R215	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R216	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R217	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R218	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R221	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R222	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R223	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R224	1-249-433-11	CARBON	22K	5%	1/4W	
R225	1-212-849-00	FUSIBLE	4.7	5%	1/4W	F
R226	1-249-412-11	CARBON	390	5%	1/4W	
R227	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R228	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R229	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R230	1-216-246-91	METAL GLAZE	100K	5%	1/8W	
R231	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R232	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R233	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R234	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R235	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R236	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R237	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R238	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R239	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R241	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R242	1-216-214-00	METAL GLAZE	4.7K	5%	1/8W	
R244	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R245	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R246	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R247	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R248	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R249	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R250	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R251	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R252	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R253	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R254	1-216-252-00	METAL GLAZE	180K	5%	1/8W	
R255	1-216-252-00	METAL GLAZE	180K	5%	1/8W	
R256	1-249-409-11	CARBON	220	5%	1/4W	
R257	1-249-409-11	CARBON	220	5%	1/4W	
R258	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R259	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R260	1-216-212-00	METAL GLAZE	3.9K	5%	1/8W	
R301	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R302	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R303	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R304	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R305	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R306	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R307	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R308	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R309	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R310	1-216-001-00	METAL GLAZE	10	5%	1/10W	
R311	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R312	1-249-413-11	CARBON	470	5%	1/4W	
R313	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R314	1-249-409-11	CARBON	220	5%	1/4W	
R315	1-249-409-11	CARBON	220	5%	1/4W	
R316	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R317	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R318	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R319	1-249-413-11	CARBON	470	5%	1/4W	
R320	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R321	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R322	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R324	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R325	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R326	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R328	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R329	1-216-023-00	METAL GLAZE	82	5%	1/10W	
R330	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R331	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R333	1-216-182-91	METAL GLAZE	220	5%	1/8W	
R334	1-216-182-91	METAL GLAZE	220	5%	1/8W	
R336	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R337	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R338	1-216-035-00	METAL GLAZE	270	5%	1/10W	
R339	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R340	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R341	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R342	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R343	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R344	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R345	1-216-171-00	METAL GLAZE	75	5%	1/8W	
R346	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R347	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R351	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R352	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R354	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R355	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R356	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R357	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R358	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R359	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R360	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R361	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R362	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R365	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R366	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R367	1-216-212-00	METAL GLAZE	3.9K	5%	1/10W	
R368	1-216-033-00	METAL GLAZE	220	5%	1/10W	(KV-A2931B)

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

A IF (KV-A2931A/ A2931D/ A2933E)

REF.NO.	PART NO.	DESCRIPTION				REMARK
						(KV-A2931B)
R369	1-216-033-00	METAL GLAZE	220	5%	1/10W	
						(KV-A2931B)
R370	1-216-033-00	METAL GLAZE	220	5%	1/10W	
						(KV-A2931B)
R371	1-216-033-00	METAL GLAZE	220	5%	1/10W	
						(KV-A2931B)
R373	1-216-017-00	METAL GLAZE	47	5%	1/10W	
						(KV-A2931B)
R376	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R377	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R378	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R379	1-216-206-00	METAL GLAZE	2.2K	5%	1/8W	
R380	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R381	1-216-164-00	METAL GLAZE	39	5%	1/8W	
R382	1-216-164-00	METAL GLAZE	39	5%	1/8W	
R383	1-216-164-00	METAL GLAZE	39	5%	1/8W	
R384	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R386	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R387	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R388	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R389	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R390	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R401	1-216-171-00	METAL GLAZE	75	5%	1/8W	
R402	1-216-158-00	METAL GLAZE	22	5%	1/8W	
R403	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R404	1-216-158-00	METAL GLAZE	22	5%	1/8W	
R405	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R406	1-216-158-00	METAL GLAZE	22	5%	1/8W	
R407	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R408	1-216-093-00	METAL GLAZE	68K	5%	1/10W	
R410	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R411	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R412	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R413	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R414	1-216-022-00	METAL GLAZE	75	5%	1/10W	
R416	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R417	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R419	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R420	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R423	1-216-015-00	METAL GLAZE	39	5%	1/10W	
						(KV-A2931B)
R424	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R425	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R426	1-216-025-00	METAL GLAZE	100	5%	1/10W	
						(KV-A2931B)
R427	1-216-025-00	METAL GLAZE	100	5%	1/10W	
						(KV-A2931B)
R428	1-249-393-11	CARBON	10	5%	1/4W	F
R572	1-216-198-00	METAL GLAZE	1K	5%	1/10W	
						(KV-A2931B)
R574	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R575	1-216-186-00	METAL GLAZE	330	5%	1/8W	
R577	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R578	1-216-228-00	METAL GLAZE	18K	5%	1/8W	
R580	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R581	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R582	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R583	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R584	1-216-039-00	METAL GLAZE	390	5%	1/10W	
R585	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R586	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R587	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R588	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R589	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R590	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R591	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R592	1-216-232-00	METAL GLAZE	27K	5%	1/8W	
R593	1-216-071-00	METAL GLAZE	8.2K	5%	1/10W	
R594	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R595	1-216-643-11	METAL CHIP	470	0.50%	1/10W	
R596	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R597	1-216-230-00	METAL GLAZE	22K	5%	1/8W	
R600	1-216-190-00	METAL GLAZE	470	5%	1/8W	
R616	1-216-184-00	METAL GLAZE	270	5%	1/8W	
R619	1-216-077-00	METAL GLAZE	15K	5%	1/10W	
R628	1-249-413-11	CARBON	470	5%	1/4W	
R632	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R681	1-216-397-11	METAL OXIDE	4.7	5%	3W	F
R682	1-249-415-11	CARBON	680	5%	1/4W	
R683	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2219	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R2220	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R2221	1-216-174-00	METAL GLAZE	100	5%	1/8W	
R2222	1-216-174-00	METAL GLAZE	100	5%	1/8W	

<TUNER>

TU101⚠	1-693-184-11	TUNER (U944C)	(KV-A2932U)
⚠	1-693-185-11	TUNER (UV916H)	(KV-A2931A,A2931B,A2931D,A2933E)

<CRYSTAL>

X301	1-567-504-11	OSCILLATOR, CRYSTAL
X302	1-567-505-11	OSCILLATOR, CRYSTAL

****

1-466-733-11 IF BLOCK (IFH-389)
****
(KV-A2931A,A2931D,A2933E)

<CAPACITOR>

C101	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C102	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C103	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C104	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C105	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C106	1-124-477-11	ELECT	47MF	20%	16V
C107	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C108	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C109	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C112	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C113	1-163-101-00	CERAMIC CHIP	22PF	5%	50V
C114	1-124-477-11	ELECT	47MF	20%	16V
C115	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C116	1-164-346-11	CERAMIC CHIP	1MF		16V
C118	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C119	1-163-369-11	CERAMIC CHIP	47PF	5%	50V
C121	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C122	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C123	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C124	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C130	1-216-295-00	METAL GLAZE	0	5%	1/10W
C131	1-163-093-00	CERAMIC CHIP	10PF	5%	50V
C133	1-124-477-11	ELECT	47MF	20%	16V
C152	1-164-337-11	CERAMIC CHIP	2.2MF		16V
C153	1-164-337-11	CERAMIC CHIP	2.2MF		16V

IF (KV-A2931A/ A2931D/ A2933E)

REF.NO.	PART NO.	DESCRIPTION			REMARK
C154	1-164-337-11	CERAMIC CHIP	2.2MF		16V
C155	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C156	1-124-477-11	ELECT	47MF	20%	16V
C161	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C162	1-164-222-11	CERAMIC CHIP	0.22MF		25V
C163	1-164-346-11	CERAMIC CHIP	1MF		16V
C164	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C165	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C166	1-124-477-11	ELECT	47MF	20%	16V
C167	1-163-213-00	CERAMIC CHIP	0.0022MF	5%	50V
C168	1-164-346-11	CERAMIC CHIP	1MF		16V
C170	1-124-477-11	ELECT	47MF	20%	16V
C171	1-124-477-11	ELECT	47MF	20%	16V
C172	1-124-477-11	ELECT	47MF	20%	16V
C173	1-124-477-11	ELECT	47MF	20%	16V

<FILTER>

CF2	1-527-839-00	FILTER, CERAMIC
CF3	1-527-840-00	FILTER, CERAMIC
CF4	1-567-570-11	FILTER, CERAMIC
SWF1	1-579-658-11	FILTER, SAWTOOTH WAVE

<CONNECTOR>

CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P

<TRIMMER>

CT1	1-404-801-11	TRAP, CERAMIC

<DIODE>

D161	8-719-400-18	DIODE MA152WK

<IC>

IC1	8-759-070-76	IC M52308SP
IC2	8-759-070-71	IC TDA9820
IC3	8-759-514-54	IC BA7046

<COIL>

L101	1-408-421-00	INDUCTOR	100UH
L102	1-408-419-00	INDUCTOR	68UH
L103	1-408-419-00	INDUCTOR	68UH
L104	1-408-408-00	INDUCTOR	8.2UH
L121	1-408-413-00	INDUCTOR	22UH
L122	1-408-420-00	INDUCTOR	82UH
L142	1-410-790-41	INDUCTOR	0.56UH
L151	1-408-419-00	INDUCTOR	68UH
L161	1-408-419-00	INDUCTOR	68UH

<TRANSISTOR>

Q101	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q102	8-729-216-22	TRANSISTOR 2SA1162-G
Q121	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q122	8-729-216-22	TRANSISTOR 2SA1162-G
Q161	8-729-216-22	TRANSISTOR 2SA1162-G
Q170	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q171	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q172	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q173	8-729-120-28	TRANSISTOR 2SC1623-L5L6

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR2	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR3	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR4	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR7	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR8	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR9	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR11	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR14	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR16	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR18	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR19	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR20	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR21	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR23	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR24	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR25	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR29	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR30	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR33	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR38	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR39	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR40	1-216-296-00	METAL GLAZE	0	5%	1/8W	
R101	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R102	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R103	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R104	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R106	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R107	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R108	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R110	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R113	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R114	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R115	1-216-027-00	METAL GLAZE	120	5%	1/10W	
R116	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R117	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R118	1-216-117-00	METAL GLAZE	680K	5%	1/10W	
R119	1-216-240-00	METAL GLAZE	56K	5%	1/8W	
R120	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R121	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R122	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R123	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R124	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R125	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R127	1-216-047-00	METAL GLAZE	820	5%	1/10W	
R130	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R131	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R132	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R133	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R134	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R135	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R150	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R151	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R152	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R153	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R154	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R155	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R156	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R157	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R159	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R160	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

REF.NO.	PART NO.	DESCRIPTION	REMARK
R161	1-218-755-11	METAL CHIP 130K 0.50% 1/10W	
R162	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R163	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R164	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R165	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R166	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R167	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R168	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R169	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R170	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R171	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R172	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R173	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R174	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R175	1-216-083-00	METAL GLAZE 27K 5% 1/10W	
R176	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R177	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R178	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R179	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R180	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R181	1-216-037-00	METAL GLAZE 330 5% 1/10W	

<VARIABLE RESISTOR>

RV1	1-241-121-11	RES, ADJ, CARBON 4.7K	

<TRANSFORMER>

T4	1-416-017-21	COIL	
T5	1-416-018-21	COIL	

****

1-466-734-11 IF BLOCK (IFH-395) (KV-A2932U)
****

<CAPACITOR>

C101	1-163-239-11	CERAMIC CHIP 33PF 5% 50V	
C102	1-164-222-11	CERAMIC CHIP 0.22MF 25V	
C103	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C104	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C105	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C106	1-124-477-11	ELECT 47MF 20% 16V	
C107	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C108	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C109	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C112	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C113	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
C114	1-124-477-11	ELECT 47MF 20% 16V	
C115	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C116	1-164-346-11	CERAMIC CHIP 1MF 16V	
C118	1-164-004-11	CERAMIC CHIP 0.1MF 10% 25V	
C119	1-163-369-11	CERAMIC CHIP 47PF 5% 50V	
C122	1-163-093-00	CERAMIC CHIP 10PF 5% 50V	
C130	1-216-295-00	METAL GLAZE 0 5% 1/10W	
C131	1-163-224-11	CERAMIC CHIP 7PF 0.25PF 50V	
C133	1-124-477-11	ELECT 47MF 20% 16V	
C161	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C162	1-164-222-11	CERAMIC CHIP 0.22MF 25V	
C163	1-164-346-11	CERAMIC CHIP 1MF 16V	
C164	1-163-141-00	CERAMIC CHIP 0.001MF 5% 50V	
C165	1-164-232-11	CERAMIC CHIP 0.01MF 10% 50V	
C166	1-124-477-11	ELECT 47MF 20% 16V	

REF.NO.	PART NO.	DESCRIPTION	REMARK
C167	1-163-213-00	CERAMIC CHIP 0.0022MF 5% 50V	
C168	1-164-346-11	CERAMIC CHIP 1MF 16V	
C170	1-124-477-11	ELECT 47MF 20% 16V	
C171	1-124-477-11	ELECT 47MF 20% 16V	

<FILTER>

CD1	1-579-657-21	DISCRIMINATOR, CERAMIC	
CF1	1-567-569-11	FILTER, CERAMIC	
SWF1	1-579-659-11	FILTER, SAWTOOTH WAVE	

<CONNECTOR>

CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	

<TRIMMER>

CT1	1-409-333-00	TRAP, CERAMIC (6.0MHZ)	

<DIODE>

D161	8-719-400-18	DIODE MA152WK	

<IC>

IC1	8-759-070-76	IC M52308SP	
IC3	8-759-514-54	IC BA7046	

<COIL>

L101	1-408-414-00	INDUCTOR 27UH	
L102	1-408-419-00	INDUCTOR 68UH	
L103	1-408-419-00	INDUCTOR 68UH	
L104	1-408-406-00	INDUCTOR 5.6UH	
L105	1-408-410-00	INDUCTOR 12UH	
L142	1-410-790-41	INDUCTOR 0.56UH	
L161	1-408-419-00	INDUCTOR 68UH	

<TRANSISTOR>

Q101	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q102	8-729-216-22	TRANSISTOR 2SA1162-G	
Q122	8-729-216-22	TRANSISTOR 2SA1162-G	
Q161	8-729-216-22	TRANSISTOR 2SA1162-G	
Q172	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q173	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

<RESISTOR>

JR1	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR2	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR4	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR7	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR8	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR9	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR10	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR11	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR12	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR13	1-163-093-00	CERAMIC CHIP 10PF 5% 50V	
JR14	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR16	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR18	1-216-295-00	METAL GLAZE 0 5% 1/10W	

IF (KV-A2932U) IF (KV-A2931B)

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR19	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR20	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR21	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR23	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR24	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR25	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR29	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR30	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR33	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR38	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR39	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR40	1-216-296-00	METAL GLAZE	0	5%	1/8W	
JR41	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR42	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR101	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R101	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R102	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R103	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R104	1-216-051-00	METAL GLAZE	1.2K	5%	1/10W	
R105	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R106	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R107	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R108	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R110	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R112	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R113	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R114	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R115	1-216-031-00	METAL GLAZE	180	5%	1/10W	
R116	1-216-101-00	METAL GLAZE	150K	5%	1/10W	
R117	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R118	1-216-117-00	METAL GLAZE	680K	5%	1/10W	
R119	1-216-240-00	METAL GLAZE	56K	5%	1/8W	
R120	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R121	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R122	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R123	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R130	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R131	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R132	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R133	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R134	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R135	1-216-198-00	METAL GLAZE	1K	5%	1/8W	
R153	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R159	1-216-107-00	METAL GLAZE	270K	5%	1/10W	
R160	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R161	1-218-755-11	METAL CHIP	130K	0.50%	1/10W	
R162	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R163	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R164	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R165	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R166	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R167	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R168	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R169	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R175	1-216-083-00	METAL GLAZE	27K	5%	1/10W	
R176	1-216-075-00	METAL GLAZE	12K	5%	1/10W	
R177	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R178	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R179	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R181	1-216-037-00	METAL GLAZE	330	5%	1/10W	

<VARIABLE RESISTOR>

RV1	1-241-121-11	RES, ADJ, CARBON 4.7K	

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
T4	1-416-017-21	COIL	
T5	1-416-018-21	COIL	

****

1-466-735-11 IF BLOCK (IFH-389F) (KV-A2931B)
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C2	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C3	1-124-903-11	ELECT	1MF	20%	50V	
C4	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C5	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C6	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C7	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C8	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C9	1-124-916-11	ELECT	22MF	20%	25V	
C10	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C11	1-124-477-11	ELECT	47MF	20%	16V	
C13	1-163-059-00	CERAMIC CHIP	0.01MF	10%	50V	
C14	1-124-477-11	ELECT	47MF	20%	16V	
C15	1-124-903-11	ELECT	1MF	20%	50V	
C16	1-163-061-00	CERAMIC CHIP	0.015MF	10%	50V	
C17	1-162-638-11	CERAMIC CHIP	1MF		16V	
C18	1-162-638-11	CERAMIC CHIP	1MF		16V	
C19	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V	
C20	1-124-902-00	ELECT	0.47MF	20%	50V	
C21	1-124-903-11	ELECT	1MF	20%	50V	
C22	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C23	1-124-902-00	ELECT	0.47MF	20%	50V	
C24	1-164-506-11	CERAMIC CHIP	4.7MF		16V	
C25	1-124-477-11	ELECT	47MF	20%	16V	
C26	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C27	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C28	1-124-477-11	ELECT	47MF	20%	16V	
C33	1-124-907-11	ELECT	10MF	20%	50V	
C34	1-124-907-11	ELECT	10MF	20%	50V	
C35	1-124-925-11	ELECT	2.2MF	20%	50V	
C36	1-124-477-11	ELECT	47MF	20%	16V	
C37	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C38	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C40	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C71	1-124-477-11	ELECT	47MF	20%	16V	
C72	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C80	1-124-477-11	ELECT	47MF	20%	16V	
C83	1-124-477-11	ELECT	47MF	20%	16V	
C84	1-124-477-11	ELECT	47MF	20%	16V	
C85	1-124-477-11	ELECT	47MF	20%	16V	
C86	1-124-477-11	ELECT	47MF	20%	16V	
C87	1-124-477-11	ELECT	47MF	20%	16V	
C91	1-163-229-11	CERAMIC CHIP	12PF	5%	50V	
C95	1-164-337-11	CERAMIC CHIP	2.2MF		16V	
C101	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C102	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C104	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C105	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C106	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C121	1-126-176-11	ELECT	220MF	20%	10V	
C122	1-163-119-00	CERAMIC CHIP	120PF	5%	50V	

IF(KV-A2931B)

REF.NO.	PART NO.	DESCRIPTION	REMARK
C131	1-126-099-11	ELECT 2.2MF 20%	35V
		<FILTER>	
CF1	1-527-839-00	FILTER, CERAMIC	
CF2	1-567-569-11	FILTER, CERAMIC	
CF3	1-527-840-00	FILTER, CERAMIC	
CF4	1-567-570-11	FILTER, CERAMIC	
SWF1	1-579-662-11	FILTER, SURFACE WAVE	
SWF3	1-404-711-11	SAWF	
SWF4	1-579-660-11	FILTER, SAWTOOTH WAVE	
		<CONNECTOR>	
CN1	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	
CN2	1-750-173-11	PIN, CONNECTOR (PC BOARD) 10P	
		<TRIMMER>	
CT1	1-404-801-11	TRAP, CERAMIC	
CT2	1-409-429-11	TRAP, CERAMIC	
CV1	1-141-245-00	CAP, TRIMMER	
CV2	1-141-245-00	CAP, TRIMMER	
CV3	1-141-304-21	TRIMMER, CERAMIC	
		<DIODE>	
D7	8-719-421-57	DIODE MA73-TX	
D8	8-719-421-57	DIODE MA73-TX	
D9	8-719-421-57	DIODE MA73-TX	
		<IC>	
IC1	8-759-070-75	IC M52312SP	
IC2	8-759-070-71	IC TDA9820	
IC3	8-759-979-62	IC PCF8574	
		<COIL>	
L1	1-408-419-00	INDUCTOR 68UH	
L2	1-408-419-00	INDUCTOR 68UH	
L3	1-408-407-00	INDUCTOR 6.8UH	
L4	1-408-419-00	INDUCTOR 68UH	
L5	1-408-419-00	INDUCTOR 68UH	
L7	1-408-406-00	INDUCTOR 5.6UH	
L9	1-408-419-00	INDUCTOR 68UH	
L71	1-408-419-00	INDUCTOR 68UH	
L101	1-408-399-00	INDUCTOR 1.5UH	
L121	1-408-407-00	INDUCTOR 6.8UH	
		<TRANSISTOR>	
Q1	8-729-907-06	TRANSISTOR BF199-AMMO	
Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q5	8-729-115-10	TRANSISTOR 2SK105A-10	
Q6	8-729-900-52	TRANSISTOR DTC114YK	
Q7	8-729-216-22	TRANSISTOR 2SA1162-G	
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q10	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q11	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q12	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q13	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q14	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q15	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q16	8-729-216-22	TRANSISTOR 2SA1162-G	

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q101	8-729-104-80	TRANSISTOR 2SC3355	
Q121	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		<RESISTOR>	
JR2	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR3	1-216-296-00	METAL GLAZE 0 5% 1/8W	
JR5	1-216-296-00	METAL GLAZE 0 5% 1/8W	
R1	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R2	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R3	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R4	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R5	1-216-021-00	METAL GLAZE 68 5% 1/10W	
R6	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R8	1-216-051-00	METAL GLAZE 1.2K 5% 1/10W	
R9	1-216-069-00	METAL GLAZE 6.8K 5% 1/10W	
R10	1-216-071-00	METAL GLAZE 8.2K 5% 1/10W	
R11	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R24	1-216-280-00	METAL GLAZE 2.7M 5% 1/8W	
R25	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R26	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R27	1-216-266-00	METAL GLAZE 680K 5% 1/8W	
R28	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R29	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R30	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R31	1-216-017-00	METAL GLAZE 47 5% 1/10W	
R32	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R33	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R34	1-216-252-00	METAL GLAZE 180K 5% 1/8W	
R35	1-216-035-00	METAL GLAZE 270 5% 1/10W	
R36	1-216-029-00	METAL GLAZE 150 5% 1/10W	
R37	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R38	1-216-099-00	METAL GLAZE 120K 5% 1/10W	
R39	1-216-089-00	METAL GLAZE 47K 5% 1/10W	
R40	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R42	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R43	1-216-067-00	METAL GLAZE 5.6K 5% 1/10W	
R44	1-216-027-00	METAL GLAZE 120 5% 1/10W	
R45	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R46	1-216-031-00	METAL GLAZE 180 5% 1/10W	
R47	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R48	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R49	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R53	1-216-082-00	METAL GLAZE 24K 5% 1/10W	
R54	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R55	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R56	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R57	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R58	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R59	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R60	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R61	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R63	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R71	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R72	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R73	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R74	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R75	1-216-079-00	METAL GLAZE 18K 5% 1/10W	
R76	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R77	1-216-174-00	METAL GLAZE 100 5% 1/8W	
R81	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R82	1-216-121-00	METAL GLAZE 1M 5% 1/10W	
R83	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R84	1-216-085-00	METAL GLAZE 33K 5% 1/10W	

IF(KV-A2931B) M1

REF.NO.	PART NO.	DESCRIPTION	REMARK
R85	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R86	1-216-689-11	METAL GLAZE 39K 5% 1/10W	
R87	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R88	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R89	1-216-095-00	METAL GLAZE 82K 5% 1/10W	
R90	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R91	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R92	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R93	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R94	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R95	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R96	1-216-059-00	METAL GLAZE 2.7K 5% 1/10W	
R97	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R98	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R99	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R100	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R102	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R103	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R104	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R105	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R121	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R122	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R123	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R124	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R125	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R301	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R302	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R303	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R304	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R305	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R306	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R307	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R308	1-216-037-00	METAL GLAZE 330 5% 1/10W	

<VARIABLE RESISTOR>

RV2	1-241-120-11	RES, ADJ, CARBON 2.2K	

<TRANSFORMER>

T1	1-404-806-21	COIL	
T3	1-416-012-11	COIL	
T4	1-416-012-11	COIL	
T5	1-402-720-11	COIL	

<CRYSTAL>

X1	1-579-648-21	VIBRATOR, CERAMIC	

****

*A-1635-006-A M1 BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
C001	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C002	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C003	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C004	1-164-222-11	CERAMIC CHIP 0.22MF 25V	
C007	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C008	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C010	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C011	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C012	1-163-117-00	CERAMIC CHIP 100PF 5% 50V	
C014	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C016	1-163-141-00	CERAMIC CHIP 0.001MF 5%	50V
C017	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C018	1-164-505-11	CERAMIC CHIP 2.2MF	16V
C019	1-124-916-11	ELECT 22MF 20%	50V
C020	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C021	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C022	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C023	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C024	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C025	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C026	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C032	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C035	1-163-033-00	CERAMIC CHIP 0.022MF	50V
C036	1-164-005-11	CERAMIC CHIP 0.47MF	25V
C037	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C039	1-163-011-11	CERAMIC CHIP 0.0015MF 10%	50V
C041	1-162-638-11	CERAMIC CHIP 1MF	16V
C042	1-164-346-11	CERAMIC CHIP 1MF	16V
C522	1-163-141-00	CERAMIC CHIP 0.001MF 5%	50V
C523	1-163-141-00	CERAMIC CHIP 0.001MF 5%	50V
C524	1-163-113-00	CERAMIC CHIP 68PF 5%	50V
C525	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C528	1-163-105-00	CERAMIC CHIP 33PF 5%	50V
C529	1-163-169-00	CERAMIC CHIP 33PF 5%	50V
C541	1-164-232-11	CERAMIC CHIP 0.01MF 10%	50V
C542	1-163-037-11	CERAMIC CHIP 0.022MF 10%	25V
C543	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C544	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C546	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C547	1-163-020-00	CERAMIC CHIP 0.0082MF 10%	50V
C549	1-163-989-11	CERAMIC CHIP 0.033MF 10%	25V
C550	1-163-141-00	CERAMIC CHIP 0.001MF 5%	50V
C559	1-164-004-11	CERAMIC CHIP 0.1MF 10%	25V
C560	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C563	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C564	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C565	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C566	1-163-031-11	CERAMIC CHIP 0.01MF	50V
C567	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C568	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C569	1-164-161-11	CERAMIC CHIP 0.0022MF 10%	50V
C570	1-162-568-11	CERAMIC CHIP 0.33MF 10%	16V
C2001	1-163-235-11	CERAMIC CHIP 22PF 5%	50V
C2002	1-163-235-11	CERAMIC CHIP 22PF 5%	50V
C2003	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C2004	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C2005	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C2006	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C2008	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C2009	1-163-105-00	CERAMIC CHIP 33PF 5%	50V
C2010	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C2011	1-163-038-00	CERAMIC CHIP 0.1MF	25V
C2012	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C2014	1-163-009-11	CERAMIC CHIP 0.001MF 10%	50V
C2015	1-164-349-11	CERAMIC CHIP 0.18MF 10%	25V
C2016	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C2017	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C2018	1-164-505-11	CERAMIC CHIP 2.2MF	16V
C2019	1-124-916-11	ELECT 22MF 20%	50V
C2020	1-164-222-11	CERAMIC CHIP 0.22MF	25V
C2021	1-163-113-00	CERAMIC CHIP 68PF 5%	50V
C2022	1-163-117-00	CERAMIC CHIP 100PF 5%	50V

REF.NO.	PART NO.	DESCRIPTION	REMARK
C2023	1-124-907-11	ELECT 10MF 20%	50V
C2024	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C2025	1-163-117-00	CERAMIC CHIP 100PF 5%	50V
C2027	1-164-222-11	CERAMIC CHIP 0.22MF	25V
		<FILTER>	
CD001	1-577-364-11	VIBRATOR, CERAMIC	
		<CONNECTOR>	
CN1413	1-695-301-11	CONNECTOR, BOARD TO BOARD 40P	
CN1426*	1-568-881-51	PIN, CONNECTOR 6P	
CN1432*	1-568-882-51	PIN, CONNECTOR 7P	
CN1435*	1-568-882-51	PIN, CONNECTOR 7P	
		<DIODE>	
D001	8-719-027-82	DIODE MA3039H-TX	
D2001	8-719-036-58	DIODE MA3030-H(TX)	
D2002	8-719-401-31	DIODE MA3047L-TX	
D2003	8-719-104-34	DIODE 1S2836	
		<IC>	
IC001	8-759-168-52	IC SDA30C162-GEG	
IC002	8-759-167-62	IC TMS27PC010A-15FML	
	1-750-797-11	SOCKET, PLCC ; IC002	
IC561	8-752-347-92	IC CXD2018Q	
IC562	8-759-998-98	IC LM358D	
IC563	8-759-708-05	IC NJM78L05A	
IC2001	8-759-708-05	IC NJM78L05A	
IC2002	8-759-181-21	IC SDA5273-B19-GEG	
IC2003	8-759-188-60	IC MB81C4256A-70PSZ	
IC2004	8-759-170-67	IC SDA9085	
		<COIL>	
L001	1-408-421-00	INDUCTOR 100UH	
L561	1-408-409-00	INDUCTOR 10UH	
L562	1-408-409-00	INDUCTOR 10UH	
L563	1-408-947-00	INDUCTOR 2.2MMH	
L2001	1-410-674-31	INDUCTOR 82UH	
L2004	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
		<TRANSISTOR>	
Q002	8-729-216-22	TRANSISTOR 2SA1162-G	
Q003	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q564	8-729-216-22	TRANSISTOR 2SA1162-G	
Q565	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q566	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q567	8-729-901-01	TRANSISTOR DTC144EK	
Q2001	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2002	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2003	8-729-216-22	TRANSISTOR 2SA1162-G	
Q2004	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2005	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q2006	8-729-901-01	TRANSISTOR DTC144EK	
Q2008	8-729-901-00	TRANSISTOR DTC124EK	
		<RESISTOR>	
JR553	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR554	1-216-296-91	METAL GLAZE 0 5% 1/8W	
R001	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R002	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R003	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R004	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R005	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R006	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R007	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R008	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R010	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R011	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R012	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R013	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R014	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R016	1-216-045-00	METAL GLAZE 680 5% 1/10W	
R017	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R018	1-216-041-00	METAL GLAZE 470 5% 1/10W	
R019	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R020	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R021	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R022	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R023	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R024	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R025	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R026	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R027	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R028	1-216-075-00	METAL GLAZE 12K 5% 1/10W	
R030	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R032	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R033	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R034	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R035	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R038	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R049	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R050	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R051	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R052	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R053	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R054	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R055	1-216-081-00	METAL GLAZE 22K 5% 1/10W	
R067	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R068	1-216-043-00	METAL GLAZE 560 5% 1/10W	
R069	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R070	1-216-037-00	METAL GLAZE 330 5% 1/10W	
R535	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R536	1-216-057-00	METAL GLAZE 2.2K 5% 1/10W	
R538	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R539	1-216-657-11	METAL CHIP 1.8K 0.50% 1/10W	
R541	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R542	1-216-025-00	METAL GLAZE 100 5% 1/10W	
R544	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R545	1-216-033-00	METAL GLAZE 220 5% 1/10W	
R546	1-216-061-00	METAL GLAZE 3.3K 5% 1/10W	
R547	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R551	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R552	1-216-097-00	METAL GLAZE 100K 5% 1/10W	
R553	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R559	1-216-049-00	METAL GLAZE 1K 5% 1/10W	
R560	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R564	1-216-091-00	METAL GLAZE 56K 5% 1/10W	
R565	1-216-065-00	METAL GLAZE 4.7K 5% 1/10W	
R566	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R567	1-216-085-00	METAL GLAZE 33K 5% 1/10W	
R568	1-216-109-00	METAL GLAZE 330K 5% 1/10W	
R570	1-216-049-00	METAL GLAZE 1K 5% 1/10W	

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R2001	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2002	1-216-043-00	METAL GLAZE	560	5%	1/10W	
R2003	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2004	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R2005	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R2007	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2008	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2009	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2010	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R2011	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2012	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R2013	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R2014	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R2015	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R2016	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R2017	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2018	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2019	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R2020	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2021	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R2022	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2023	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2024	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2025	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R2026	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R2028	1-216-055-00	METAL GLAZE	1.8K	5%	1/10W	
R2029	1-216-079-00	METAL GLAZE	18K	5%	1/10W	
R2032	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2033	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R2035	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R2036	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R2037	1-216-049-00	METAL GLAZE	1K	5%	1/10W	

<CRYSTAL>

X2001	1-579-965-21	VIBRATOR, CRYSTAL

****

*A-1638-042-A C BOARD, COMPLETE
****

<CAPACITOR>

C701	1-162-114-00	CERAMIC	0.0047MF		2KV
C703	1-123-946-00	ELECT	4.7MF	20%	250V
C705	1-162-116-00	CERAMIC	680PF	10%	2KV
C708	1-163-197-00	CERAMIC CHIP	470PF	10%	50V
C709	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C710	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C711	1-101-880-00	CERAMIC	47PF	5%	50V
C712	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C713	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C714	1-163-121-00	CERAMIC CHIP	150PF	5%	50V
C716	1-124-122-11	ELECT	100MF	20%	50V

<CONNECTOR>

CN0002	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P
CN0403	*1-564-511-11	PLUG, CONNECTOR 8P
CN0421	*1-508-768-00	PIN, CONNECTOR (5MM PITCH) 6P

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D701	8-719-911-19	DIODE 1SS119	
D702	8-719-911-19	DIODE 1SS119	
D703	8-719-911-19	DIODE 1SS119	
D704	8-719-911-19	DIODE 1SS119	
D705	8-719-911-19	DIODE 1SS119	
D706	8-719-911-19	DIODE 1SS119	
D707	8-719-911-19	DIODE 1SS119	
D708	8-719-911-19	DIODE 1SS119	
D709	8-719-911-19	DIODE 1SS119	
D710	8-719-911-19	DIODE 1SS119	
D713	8-719-908-03	DIODE GP08D	

<JACK>

J701	⚠ 1-526-990-21	SOCKET, PICTURE TUBE

<COIL>

L701	1-410-667-31	INDUCTOR	22UH
L703	1-408-609-41	INDUCTOR	33UH
L705	1-408-609-41	INDUCTOR	33UH
L707	1-408-609-41	INDUCTOR	33UH

<TRANSISTOR>

Q701	8-729-906-70	TRANSISTOR BF871
Q702	8-729-906-70	TRANSISTOR BF871
Q703	8-729-906-70	TRANSISTOR BF871
Q704	8-729-906-70	TRANSISTOR BF871
Q705	8-729-906-70	TRANSISTOR BF871
Q706	8-729-906-70	TRANSISTOR BF871
Q707	8-729-200-17	TRANSISTOR 2SA1091-0
Q708	8-729-200-17	TRANSISTOR 2SA1091-0
Q709	8-729-200-17	TRANSISTOR 2SA1091-0
Q710	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q711	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q712	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q713	8-729-216-22	TRANSISTOR 2SA1162-G
Q714	8-729-255-12	TRANSISTOR 2SC2551-0

<RESISTOR>

JR701	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR703	1-216-296-91	METAL GLAZE	0	5%	1/8W	
R701	1-202-848-00	SOLID	680K	10%	1/2W	
R702	1-202-838-00	SOLID	100K	20%	1/2W	
R703	1-202-838-00	SOLID	100K	20%	1/2W	
R704	1-202-842-11	SOLID	220K	10%	1/2W	
R705	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R706	1-216-398-11	METAL OXIDE	5.6	5%	3W	F
R707	1-249-421-11	CARBON	2.2K	5%	1/4W	
R708	1-249-421-11	CARBON	2.2K	5%	1/4W	
R709	1-249-421-11	CARBON	2.2K	5%	1/4W	
R710	1-215-899-11	METAL OXIDE	15K	5%	2W	F
R711	1-202-820-11	SOLID	1.5K	20%	1/2W	
R712	1-215-899-11	METAL OXIDE	15K	5%	2W	F
R713	1-202-820-11	SOLID	1.5K	20%	1/2W	
R714	1-215-899-11	METAL OXIDE	15K	5%	2W	F
R715	1-202-820-11	SOLID	1.5K	20%	1/2W	
R716	1-247-700-11	CARBON	100	5%	1/4W	F
R717	1-249-405-11	CARBON	100	5%	1/4W	F
R718	1-247-700-11	CARBON	100	5%	1/4W	F
R720	1-249-417-11	CARBON	1K	5%	1/4W	F
R722	1-247-713-11	CARBON	1K	5%	1/4W	F

REF.NO.	PART NO.	DESCRIPTION				REMARK
R724	1-249-417-11	CARBON	1K	5%	1/4W	F
R725	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R726	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R727	1-216-067-00	METAL GLAZE	5.6K	5%	1/10W	
R728	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R729	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R730	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R731	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R732	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R733	1-216-017-00	METAL GLAZE	47	5%	1/10W	
R734	1-202-549-00	SOLID	100	20%	1/2W	
R735	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R738	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R739	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R740	1-216-025-00	METAL GLAZE	100	5%	1/10W	
R741	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R742	1-216-029-00	METAL GLAZE	150	5%	1/10W	
R743	1-249-434-11	CARBON	27K	5%	1/4W	
R747	1-216-489-11	METAL OXIDE	27K	5%	3W	F
R749	1-216-490-11	METAL OXIDE	39K	5%	3W	F
R751	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R753	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R758	1-249-419-11	CARBON	1.5K	5%	1/4W	
R759	1-249-419-11	CARBON	1.5K	5%	1/4W	
R760	1-249-419-11	CARBON	1.5K	5%	1/4W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV701	1-230-641-11	RES, ADJ, METAL GLAZE 2.2M	
RV702	1-241-656-11	RES, ADJ, METAL FILM 110M	
RV702	1-241-656-11	RES, ADJ, METAL FILM 110M	

****

*A-1640-102-A D4 BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C1841	1-137-127-91	FILM	0.015MF	5%	63V	
C1844	1-106-383-00	MYLAR	0.047MF	5%	200V	
C1845	1-137-035-11	FILM	0.47MF	10%	100V	
C1851	1-126-103-11	ELECT	470MF	20%	16V	
C1854	1-124-910-11	ELECT	47MF	20%	50V	
C1855	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V	
C1858	1-163-275-11	CERAMIC CHIP	0.001MF	10%	50V	
C1859	1-163-275-11	CERAMIC CHIP	0.001MF	10%	50V	
C1860	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
C1861	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	
C1862	1-124-657-00	ELECT	10MF	20%	50V	
C1863	1-136-104-00	FILM	0.16MF	5%	200V	
C1867	1-126-103-11	ELECT	470MF	20%	16V	
C1892	1-163-989-11	CERAMIC CHIP	0.033MF	10%	25V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1823*	1-573-299-11	CONNECTOR, BOARD TO BOARD 10P	
CN1841*	1-568-878-51	PIN, CONNECTOR 3P	
CN1842	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D1840	8-719-302-43	DIODE EL1Z	
D1841	8-719-400-18	DIODE MA152WK	
D1856	8-719-400-18	DIODE MA152WK	
D1867	8-719-987-87	DIODE ERA85-009	
D1868	8-719-987-87	DIODE ERA85-009	
D1882	8-719-109-89	DIODE RD5.6ESB2	
D1883	8-719-109-89	DIODE RD5.6ESB2	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC1851	8-759-708-05	IC NJM78L05A	
IC1852	8-759-135-80	IC UPC358C	
IC1853	8-759-902-21	IC SN74LS221N	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L1841	1-459-075-00	COIL,DYNAMIC CONVERSION CHOKE	
L1843	1-459-104-00	COIL, WITH CORE	
L1852	1-459-390-00	COIL (WITH CORE)	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q1840	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1841	8-729-195-82	TRANSISTOR 2SC2958-TL	
Q1851	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1854	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1855	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1856	8-729-017-05	TRANSISTOR 2SA1837	
Q1857	8-729-122-03	TRANSISTOR 2SA1220A-P	
Q1858	8-729-920-92	TRANSISTOR 2SD2096-EF	
Q1859	8-729-216-22	TRANSISTOR 2SA1162-G	
Q1860	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q1861	8-729-208-72	TRANSISTOR 2SC3298B-Y	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR1851	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R1841	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R1842	1-260-111-11	CARBON	10K	5%	1/2W	
R1843	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R1844	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R1847	1-249-399-11	CARBON	33	5%	1/4W	F
R1849	1-260-111-11	CARBON	10K	5%	1/2W	
R1852	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R1853	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R1854	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1860	1-216-021-00	METAL GLAZE	68	5%	1/10W	
R1861	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1862	1-216-053-00	METAL GLAZE	1.5K	5%	1/10W	
R1863	1-218-758-11	METAL CHIP	180K	0.50%	1/10W	
R1873	1-216-474-11	METAL OXIDE	82	5%	3W	F
R1875	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R1877	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1878	1-260-091-11	CARBON	220	5%	1/2W	
R1881	1-260-091-11	CARBON	220	5%	1/2W	
R1882	1-215-869-11	METAL OXIDE	1K	5%	1W	F
R1885	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R1893	1-216-474-11	METAL OXIDE	82	5%	3W	F
R1894	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R1895	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R1898	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R1899	1-216-037-00	METAL GLAZE	330	5%	1/10W	

<VARIABLE RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
RV1851	1-241-765-11	RES, ADJ, CERMET 22K	
RV1853	1-241-628-21	RES, ADJ, CARBON 2.2K	

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

<TRANSFORMER>

REF.NO.	PART NO.	DESCRIPTION	REMARK
T1851	1-423-786-11	TRANSFORMER, FERRITE (VPOT)	

`************************************************************`

*A-1640-109-A D5 BOARD, COMPLETE
`******************`

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C803	1-164-695-11	CERAMIC CHIP	0.0022MF	5%	50V	
C804	1-136-161-00	FILM	0.047MF	5%	50V	
C806	1-124-907-11	ELECT	10MF	20%	50V	
C823	1-124-902-00	ELECT	0.47MF	20%	50V	
C827	1-130-777-00	FILM	0.1MF	5%	63V	
C847	1-164-337-11	CERAMIC CHIP	2.2MF		16V	
C852	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V	
C853	1-124-910-11	ELECT	47MF	20%	50V	
C857	1-124-902-00	ELECT	0.47MF	20%	50V	
C861	1-130-777-00	FILM	0.1MF	5%	63V	
C866	1-137-364-91	FILM	0.001MF	5%	50V	
C870	1-137-364-91	FILM	0.001MF	5%	50V	
C871	1-130-651-00	FILM	0.001MF	2%	100V	
C872	1-124-907-11	ELECT	10MF	20%	50V	
C873	1-137-364-91	FILM	0.001MF	5%	50V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN2044	*1-573-299-11	CONNECTOR, BOARD TO BOARD 10P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D804	8-719-911-19	DIODE 1SS119	
D808	8-719-109-88	DIODE RD5.6ESB1	
D818	8-719-109-93	DIODE RD6.2ESB2	
D821	8-719-104-34	DIODE 1S2836	
D827	8-719-982-96	DIODE MTZJ-T-77-2.2A	
D830	8-719-104-34	DIODE 1S2836	
D831	8-719-400-18	DIODE MA152WK	
D832	8-719-104-34	DIODE 1S2836	
D833	8-719-104-34	DIODE 1S2836	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC802	8-759-987-16	IC LM393P	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q804	8-729-216-22	TRANSISTOR 2SA1162-G	
Q805	8-729-216-22	TRANSISTOR 2SA1162-G	
Q812	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q818	8-729-216-22	TRANSISTOR 2SA1162-G	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR802	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR803	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR804	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R802	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R805	1-216-679-11	METAL CHIP	15K	0.50%	1/10W	
R806	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R808	1-216-085-00	METAL GLAZE	33K	5%	1/10W	
R809	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R813	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R814	1-216-091-00	METAL GLAZE	56K	5%	1/10W	
R815	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R820	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R824	1-216-675-11	METAL CHIP	10K	0.50%	1/10W	
R828	1-216-121-00	METAL GLAZE	1M	5%	1/10W	
R829	1-249-429-11	CARBON	10K	5%	1/4W	F
R830	1-216-687-11	METAL CHIP	33K	0.50%	1/10W	
R832	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R834	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R835	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R837	1-216-695-11	METAL CHIP	68K	0.50%	1/10W	
R838	1-216-099-00	METAL GLAZE	120K	5%	1/10W	
R846	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W	
R847	1-216-699-11	METAL CHIP	100K	0.50%	1/10W	
R867	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R884	1-216-693-11	METAL CHIP	56K	0.50%	1/10W	

`************************************************************`

*A-1642-097-A D BOARD, COMPLETE
`*****************`

REF.NO.	PART NO.	DESCRIPTION	REMARK
	4-200-001-01	HOLDER, IC	
	4-201-023-01	SPACER, INSULATING	
	4-812-134-00	RIVET NYLON, 3.5	

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C601	1-130-202-00	FILM	0.022MF	10%	400V	
C602	1-162-116-00	CERAMIC	680PF	10%	2KV	
C603	⚠1-164-246-61	CERAMIC	0.0022MF	20%	400V	
C605	1-124-910-11	ELECT	47MF	20%	50V	
C608	1-124-903-11	ELECT	1MF	20%	50V	
C611	1-102-002-00	CERAMIC	680PF	10%	500V	
C612	1-130-481-00	FILM	0.0068MF	5%	50V	
C613	1-129-722-00	FILM	0.047MF	10%	630V	
C614	1-102-030-00	CERAMIC	330PF	10%	500V	
C615	1-124-962-11	ELECT	2200MF	20%	25V	
C616	1-162-115-00	CERAMIC	330PF	10%	1KV	
C617	1-162-116-00	CERAMIC	680PF	10%	2KV	
C618	1-162-134-11	CERAMIC	470PF	10%	2KV	
C619	1-102-030-00	CERAMIC	330PF	10%	500V	
C620	1-164-299-11	CERAMIC CHIP	0.22MF	10%	25V	
C621	1-124-347-00	ELECT	100MF	20%	160V	
C622	1-128-320-11	ELECT	2200MF	20%	16V	
C623	1-102-030-00	CERAMIC	330PF	10%	500V	
C624	1-126-800-51	ELECT	2200MF	20%	35V	
C625	1-126-800-51	ELECT	2200MF	20%	35V	
C627	1-136-553-11	FILM	0.0015MF	10%	400V	
C628	1-124-910-11	ELECT	47MF	20%	50V	
C629	1-124-907-11	ELECT	10MF	20%	50V	
C631	1-163-075-00	CERAMIC CHIP	0.047MF	10%	25V	
C632	1-137-372-11	FILM	0.022MF	5%	50V	
C633	1-163-078-11	CERAMIC CHIP	0.033MF	10%	25V	
C636	1-130-777-00	FILM	0.1MF	5%	63V	
C640	1-124-916-11	ELECT	22MF	20%	50V	
C645	1-128-571-11	ELECT	56MF	20%	50V	
C646	1-124-798-11	ELECT	1MF	20%	160V	
C647	1-124-907-11	ELECT	10MF	20%	50V	
C801	1-137-116-11	FILM	1MF	5%	200V	
C805	1-124-902-00	ELECT	0.47MF	20%	50V	
C808	1-162-114-00	CERAMIC	0.0047MF		2KV	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C810	1-163-001-11	CERAMIC CHIP	220PF	10%	50V
C812	1-162-318-11	CERAMIC	0.001MF	10%	500V
C813	1-108-704-11	MYLAR	0.1MF	10%	200V
C815	1-162-117-00	CERAMIC	100PF	10%	500V
C819	1-126-103-11	ELECT	470MF	20%	16V
C821 ⚠	1-137-139-11	FILM	0.017MF	3%	0
C822 ⚠	1-162-116-91	CERAMIC	680PF	10%	2KV
C824	1-137-366-11	FILM	0.0022MF	5%	50V
C825 ⚠	1-162-116-91	CERAMIC	680PF	10%	2KV
C826 ⚠	1-137-515-61	FILM	0.056MF	5%	400V
C828	1-136-557-11	FILM	0.0033MF	10%	400V
C831	1-123-932-00	ELECT	4.7MF	20%	160V
C832	1-124-910-11	ELECT	47MF	20%	50V
C833	1-136-112-00	FILM	1.4MF	5%	200V
C834	1-137-114-11	FILM	0.68MF	5%	200V
C835	1-124-480-11	ELECT	470MF	20%	25V
C836	1-102-228-00	CERAMIC	470PF	10%	500V
C837	1-129-702-00	FILM	0.001MF	10%	400V
C837	1-129-702-00	FILM	0.001MF	10%	400V
C838	1-108-704-11	MYLAR	0.1MF	10%	200V
C839	1-123-950-00	ELECT	47MF	20%	250V
C840	1-124-480-11	ELECT	470MF	20%	25V
C841	1-102-228-00	CERAMIC	470PF	10%	500V
C842	1-104-722-91	FILM	0.068MF	10%	250V
C843	1-124-907-11	ELECT	10MF	20%	50V
C846	1-123-024-21	ELECT	33MF		160V
C851	1-137-364-91	FILM	0.001MF	5%	50V
C854 ⚠	1-162-116-91	CERAMIC	680PF	10%	2KV
C863	1-106-383-00	MYLAR	0.047MF	10%	100V
C869	1-130-777-00	FILM	0.1MF	5%	63V
C875	1-102-038-00	CERAMIC	0.001MF		500V
C877	1-124-902-00	ELECT	0.47MF	20%	50V
C878	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C879	1-102-228-00	CERAMIC	470PF	10%	500V
C882	1-137-094-11	FILM	0.047MF	10%	100V
C1501	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C1502	1-124-903-11	ELECT	1MF	20%	50V
C1503	1-163-141-00	CERAMIC CHIP	0.001MF	5%	50V
C1504	1-124-480-11	ELECT	470MF	20%	25V
C1505	1-124-911-11	ELECT	220MF	20%	50V
C1506	1-136-202-11	FILM	0.33MF	5%	63V
C1507	1-137-423-11	MYLAR	0.15MF	10%	100V
C1508	1-124-480-11	ELECT	470MF	20%	25V
C1509	1-124-767-00	ELECT	2.2MF	20%	50V
C1511	1-124-907-11	ELECT	10MF	20%	50V
C1512	1-124-006-11	ELECT	10MF	20%	25V
C1514	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1515	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN0004	1-508-786-00	PIN, CONNECTOR (5MM PITCH) 2P	
CN0009	1-568-878-51	PIN, CONNECTOR 3P	
CN0504	1-564-511-11	PLUG, CONNECTOR 8P	
CN0505	*1-568-880-51	PIN, CONNECTOR 5P	
CN0506	*1-568-880-51	PIN, CONNECTOR 5P	
CN0519	*1-568-878-51	PIN, CONNECTOR 3P	
CN0521	1-508-765-00	PIN, CONNECTOR (5MM PITCH) 3P	
CN0523	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
CN0524	*1-568-878-51	PIN, CONNECTOR 3P	
CN0525	*1-695-294-11	PIN, CONNECTOR (PC BOARD) 6P	
CN0526	*1-568-881-51	PIN, CONNECTOR 6P	
CN0529	1-508-784-00	PIN, CONNECTOR (5MM PITCH) 1P	
CN0544	1-573-296-11	CONNECTOR, BOARD TO BOARD 10P	
CN5521	*1-568-878-51	PIN, CONNECTOR 3P	
DY1	*1-580-798-11	CONNECTOR PIN (DY) 6P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D601	8-719-104-34	DIODE 1S2836	
D602	8-719-302-43	DIODE EL1Z	
D604	8-719-921-91	DIODE MTZJ-15A	
D605	8-719-989-91	DIODE 1N4148A-T265	
D606	8-719-302-43	DIODE EL1Z	
D607	8-719-302-43	DIODE EL1Z	
D608	8-719-300-33	DIODE RU-3AM	
D610	8-719-970-39	DIODE ESAC92M-02	
D611	8-719-029-04	DIODE D5L60	
D612	8-719-510-09	DIODE D10SC6M	
D613	8-719-920-68	DIODE ESAB92-02	
D614	8-719-920-68	DIODE ESAB92-02	
D616	8-719-110-31	DIODE RD12ESB2	
D619	8-719-400-18	DIODE MA152WK	
D620	8-719-911-19	DIODE 1SS119	
D621	8-719-302-43	DIODE EL1Z	
D624	8-719-312-39	DIODE R2K-V1	
D801	8-719-018-82	DIODE RGP02-20EL-6394	
D802	8-719-302-43	DIODE EL1Z	
D803	8-719-982-27	DIODE MTZJ-33C	
D809	8-719-110-03	DIODE RD7.5ESB2	
D811	8-719-300-33	DIODE RU-3AM	
D812	8-719-908-03	DIODE GP08D	
D813	8-719-908-03	DIODE GP08D	
D814	8-719-028-29	DIODE RU30ALFS1	
D815	8-719-302-43	DIODE EL1Z	
D816	8-719-979-85	DIODE EGP20G	
D822	8-719-982-20	DIODE MTZJ-30B	
D824	8-719-028-72	DIODE RGP02-17EL-6433	
D825	8-719-400-18	DIODE MA152WK	
D826	8-719-400-18	DIODE MA152WK	
D828	8-719-911-19	DIODE 1SS119	
D1501	8-719-400-18	DIODE MA152WK	
D1503	8-719-908-03	DIODE GP08D	
D1504	8-719-982-03	DIODE MTZJ-3.6A	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC601	8-759-073-29	IC TDA4605-3	
IC602	8-759-908-15	IC TL431CLP	
IC603 ⚠	8-749-923-44	IC SFH617G-1	
IC801	8-759-987-16	IC LM393P	
IC803	8-759-081-31	IC MC78L12ACPRP	
IC1501	8-759-506-46	IC TDA8179S	

<COIL>

REF.NO.	PART NO.	DESCRIPTION	REMARK
L602	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
L603	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
L604	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
L605	1-459-442-00	COIL (WITH CORE)	
L606	1-459-442-00	COIL (WITH CORE)	
L609	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	
L610	1-410-397-21	FERRITE BEAD INDUCTOR 1.1UH	
L622	1-412-533-21	INDUCTOR 47UH	
L623	1-412-533-21	INDUCTOR 47UH	
L802	1-408-947-00	INDUCTOR 2.2MMH	
L803	1-420-872-00	COIL, AIR CORE	
L804	1-410-396-41	FERRITE BEAD INDUCTOR 0.45UH	

D

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION				REMARK
L808	1-412-545-11	INDUCTOR	470UH			
L809	1-459-104-00	COIL, WITH CORE				
L810	1-460-197-21	COIL, FERRITE (PMC)				
L811	1-412-519-11	INDUCTOR	3.3UH			
L812	1-412-519-11	INDUCTOR	3.3UH			
L813	1-412-519-11	INDUCTOR	3.3UH			
L814	1-412-545-11	INDUCTOR	470UH			
L817	1-406-832-11	COIL,HORIZONTAL LINEARITY(HLC)				
L818	1-459-104-00	COIL, WITH CORE				
L1501	1-412-525-21	INDUCTOR	10UH			
L1502	1-412-525-21	INDUCTOR	10UH			
L1503	1-412-525-21	INDUCTOR	10UH			

<IC LINK>

REF.NO.	PART NO.	DESCRIPTION
PS601⚠	1-532-686-91	LINK, IC 2.7A
PS602⚠	1-532-686-91	LINK, IC 2.7A
PS603⚠	1-532-686-91	LINK, IC 2.7A
PS604⚠	1-532-686-91	LINK, IC 2.7A

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION
Q601	8-729-016-14	TRANSISTOR BUZ91A-E3155
Q602	8-729-177-22	TRANSISTOR 2SB772-Q
Q603	8-729-900-53	TRANSISTOR DTC114EK
Q604	8-729-209-15	TRANSISTOR 2SD2012
Q605	8-729-255-12	TRANSISTOR 2SC2551-O
Q606	8-729-216-22	TRANSISTOR 2SA1162-G
Q611	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q612	8-729-903-29	TRANSISTOR DTA144TK
Q613	8-729-216-22	TRANSISTOR 2SA1162-G
Q801	8-729-016-32	TRANSISTOR 2SC4927-01
Q802	8-729-140-97	TRANSISTOR 2SB734-34
Q806	8-729-019-71	TRANSISTOR 2SK1916-53-F50
Q807	8-729-119-80	TRANSISTOR 2SC2688-LK
Q813	8-729-140-96	TRANSISTOR 2SD774-34
Q1501	8-729-120-28	TRANSISTOR 2SC1623-L5L6
Q1502	8-729-901-01	TRANSISTOR DTC144EK
Q1503	8-729-216-22	TRANSISTOR 2SA1162-G
Q1504	8-729-901-01	TRANSISTOR DTC144EK

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
FS046	1-249-399-11	CARBON	33	5%	1/4W	F
JR001	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR002	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR003	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR004	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR005	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR006	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR007	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR502	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR503	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR504	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR505	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR506	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR508	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR509	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR510	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR511	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR512	1-216-296-91	METAL GLAZE	0	5%	1/8W	
JR601	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR602	1-216-295-00	METAL GLAZE	0	5%	1/10W	
JR603	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R602	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R603	1-215-901-00	METAL OXIDE	33K	5%	2W	F
R604	1-260-200-11	CARBON	240K	5%	1/2W	
R605	1-216-313-00	METAL GLAZE	8.2	5%	1/10W	
R607	1-216-210-00	METAL GLAZE	3.3K	5%	1/8W	
R608	1-215-903-11	METAL OXIDE	68K	5%	2W	F
R609	1-249-395-11	CARBON	15	5%	1/4W	
R610	1-247-881-00	CARBON	120K	5%	1/4W	
R611	1-215-886-11	METAL OXIDE	100	5%	2W	F
R612	1-247-894-11	CARBON	430K	5%	1/4W	
R613	1-216-260-11	METAL GLAZE	390K	5%	1/8W	
R614	1-216-488-11	METAL OXIDE	18K	5%	3W	F
R615	1-216-488-11	METAL OXIDE	18K	5%	3W	F
R617	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R618	1-216-449-11	METAL OXIDE	56	5%	2W	F
R620	1-216-045-00	METAL GLAZE	680	5%	1/10W	
R621	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W	
R622	1-216-041-00	METAL GLAZE	470	5%	1/10W	
R623	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R625	1-216-449-11	METAL OXIDE	56	5%	2W	F
R626	1-216-635-11	METAL CHIP	220	0.50%	1/10W	
R627	1-249-398-11	CARBON	27	5%	1/4W	F
R629	1-215-464-00	METAL	62K	1%	1/4W	
R630	1-260-100-11	CARBON	1.2K	5%	1/2W	
R631	1-216-397-11	METAL OXIDE	4.7	5%	3W	F
R633	1-249-415-11	CARBON	680	5%	1/4W	
R634	1-215-477-00	METAL	220K	1%	1/4W	
R635	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R636	1-215-925-11	METAL OXIDE	22K	5%	3W	F
R637	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R638	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R639	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R640	1-207-905-00	WIREWOUND	0.27	10%	2W	F
R642	1-216-373-11	METAL OXIDE	2.2	5%	2W	F
R643	1-249-417-11	CARBON	1K	5%	1/4W	
R645	1-215-464-00	METAL	62K	1%	1/4W	
R646	1-216-097-00	METAL GLAZE	100K	5%	1/10W	
R647	1-216-059-00	METAL GLAZE	2.7K	5%	1/10W	
R648	1-249-424-11	CARBON	3.9K	5%	1/4W	
R649	1-216-270-00	METAL GLAZE	1M	5%	1/8W	
R650	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R651	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R652	1-216-109-91	METAL GLAZE	330K	5%	1/10W	
R653	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R654	1-215-904-11	METAL OXIDE	100K	5%	2W	F
R655	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R656	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R657	1-249-407-11	CARBON	150	5%	1/4W	
R801	1-216-069-00	METAL GLAZE	6.8K	5%	1/10W	
R804	1-217-778-11	FUSIBLE	1K	5%	1W	F
R807	1-216-037-00	METAL GLAZE	330	5%	1/10W	
R811	1-216-033-00	METAL GLAZE	220	5%	1/10W	
R812	1-216-061-00	METAL GLAZE	3.3K	5%	1/10W	
R818	1-216-686-11	METAL CHIP	30K	0.50%	1/10W	
R819	1-247-755-11	CARBON	1.8K	5%	1/2W	F
R821	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F
R822	1-216-481-11	METAL OXIDE	1.2K	5%	3W	F
R823	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R825	1-216-344-71	METAL OXIDE	0.39	5%	1W	F
R826	1-216-166-00	METAL GLAZE	47	5%	1/8W	
R833	1-216-105-91	METAL GLAZE	220K	5%	1/10W	
R836	1-216-242-00	METAL GLAZE	68K	5%	1/8W	
R839	1-216-063-00	METAL GLAZE	3.9K	5%	1/10W	
R840	1-216-097-00	METAL GLAZE	100K	5%	1/10W	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R841	1-249-397-11	CARBON	22	5%	1/4W	F
R842	1-216-454-11	METAL OXIDE	390	5%	2W	F
R848	1-215-885-00	METAL OXIDE	68	5%	2W	F
R849	1-215-881-11	METAL OXIDE	15	5%	2W	F
R851	1-247-743-11	CARBON	220	5%	1/2W	F
R852	1-249-389-11	CARBON	4.7	5%	1/4W	F
R853	1-249-443-11	CARBON	0.47	5%	1/4W	F
R854	1-249-443-11	CARBON	0.47	5%	1/4W	F
R855	1-202-826-00	SOLID	4.7K	20%	1/2W	
R858	1-249-423-11	CARBON	3.3K	5%	1/4W	
R864	1-216-686-11	METAL CHIP	30K	0.50%	1/10W	
R868	1-249-426-11	CARBON	5.6K	5%	1/4W	
R871	1-214-907-00	METAL	56K	1%	1/2W	
R872	1-249-393-11	CARBON	10	5%	1/4W	F
R873	1-249-393-11	CARBON	10	5%	1/4W	F
R876	1-249-421-11	CARBON	2.2K	5%	1/4W	
R877	1-215-907-11	METAL OXIDE	22	5%	3W	F
R889	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R893	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R894	1-216-264-00	METAL GLAZE	560K	5%	1/8W	
R895	1-216-095-00	METAL GLAZE	82K	5%	1/10W	
R897	1-216-089-91	METAL GLAZE	47K	5%	1/10W	
R898	1-216-262-00	METAL GLAZE	470K	5%	1/8W	
R899	1-249-377-11	CARBON	0.47	5%	1/4W	F
R1501	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W	
R1502	1-216-664-11	METAL CHIP	3.6K	0.50%	1/10W	
R1503	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1504	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1505	1-216-081-00	METAL GLAZE	22K	5%	1/10W	
R1506	1-216-057-91	METAL GLAZE	2.2K	5%	1/10W	
R1508	1-216-683-11	METAL CHIP	22K	0.50%	1/10W	
R1509	1-216-689-11	METAL CHIP	39K	0.50%	1/10W	
R1510	1-249-382-11	CARBON	1.2	5%	1/4W	F
R1511	1-215-888-00	METAL OXIDE	220	5%	2W	F
R1512	1-216-370-11	METAL OXIDE	1.2	5%	2W	F
R1514	1-216-049-00	METAL GLAZE	1K	5%	1/10W	
R1550	1-216-113-00	METAL GLAZE	470K	5%	1/10W	
R1551	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R1552	1-216-113-00	METAL GLAZE	470K	5%	1/10W	

<VARIABLE RESISTOR>

RV601	1-241-628-21	RES, ADJ, CARBON 2.2K

<TRANSFORMER>

T601	⚠ 1-423-738-11	S.R.T (SMT89)
T801	⚠ 1-453-153-11	TRANSFORMER ASSY, FLYBACK (NX-JU2602A2)
T803	1-437-090-00	HDT
T895	1-413-059-00	TRANSFORMER, FERRITE (DFT)

****

*A-1644-040-A VM BOARD, COMPLETE
****

4-382-854-11 SCREW (M3X10), P, SW (+)

<CAPACITOR>

C1701	1-124-119-00	ELECT	330MF	20%	16V
C1702	1-102-951-00	CERAMIC	15PF	5%	50V
C1703	1-102-115-00	CERAMIC	560PF	10%	50V
C1704	1-161-830-00	CERAMIC	0.0047MF		500V
C1705	1-124-120-11	ELECT	220MF	20%	16V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C1706	1-123-935-00	ELECT	33MF	20%	160V
C1707	1-124-907-11	ELECT	10MF	20%	50V
C1708	1-101-006-00	CERAMIC	0.047MF		50V
C1709	1-108-704-11	MYLAR	0.1MF	10%	200V
C1710	1-104-721-91	FILM	0.047MF	10%	250V
C1711	1-162-318-11	CERAMIC	0.001MF	10%	500V
C1712	1-124-799-11	ELECT	2.2MF	20%	160V
C1713	1-162-318-11	CERAMIC	0.001MF	10%	500V
C1714	1-104-721-91	FILM	0.047MF	10%	250V
C1716	1-124-907-11	ELECT	10MF	20%	50V
C1718	1-124-120-11	ELECT	220MF	20%	16V
C1719	1-124-907-11	ELECT	10MF	20%	50V

<CONNECTOR>

CN1819	*1-568-882-51	PIN, CONNECTOR 7P
CN1830	*1-568-878-51	PIN, CONNECTOR 3P

<DIODE>

D1701	8-719-911-19	DIODE 1SS119
D1702	8-719-911-19	DIODE 1SS119
D1703	8-719-911-19	DIODE 1SS119
D1704	8-719-982-37	DIODE MTZJ-39C
D1705	8-719-982-37	DIODE MTZJ-39C
D1706	8-719-911-19	DIODE 1SS119
D1707	8-719-911-19	DIODE 1SS119

<COIL>

L1702	1-408-418-00	INDUCTOR	56UH

<TRANSISTOR>

Q1701	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1702	8-729-173-38	TRANSISTOR 2SA733-K
Q1703	8-729-017-05	TRANSISTOR 2SA1837
Q1704	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1705	8-729-017-06	TRANSISTOR 2SC4793
Q1706	8-729-119-78	TRANSISTOR 2SC2785-HFE
Q1707	8-729-140-96	TRANSISTOR 2SD774-34
Q1708	8-729-901-59	TRANSISTOR BF199
Q1709	8-729-255-12	TRANSISTOR 2SC2551-0

<RESISTOR>

R1701	1-249-405-11	CARBON	100	5%	1/4W	
R1702	1-249-419-11	CARBON	1.5K	5%	1/4W	
R1703	1-249-405-11	CARBON	100	5%	1/4W	
R1704	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1705	1-247-736-11	CARBON	56	5%	1/2W	F
R1706	1-249-414-11	CARBON	560	5%	1/4W	F
R1707	1-249-411-11	CARBON	330	5%	1/4W	
R1709	1-249-418-11	CARBON	1.2K	5%	1/4W	
R1710	1-249-385-11	CARBON	2.2	5%	1/4W	F
R1711	1-249-432-11	CARBON	18K	5%	1/4W	
R1712	1-249-435-11	CARBON	33K	5%	1/4W	
R1713	1-249-438-11	CARBON	56K	5%	1/4W	
R1714	1-249-429-11	CARBON	10K	5%	1/4W	
R1715	1-216-476-11	METAL OXIDE	180	5%	3W	F
R1716	1-249-417-11	CARBON	1K	5%	1/4W	F
R1717	1-249-432-11	CARBON	18K	5%	1/4W	
R1718	1-249-412-11	CARBON	390	5%	1/4W	
R1719	1-249-419-11	CARBON	1.5K	5%	1/4W	

VM **H1** **H2** **J**

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1720	1-249-441-11	CARBON	100K	5%	1/4W	
R1721	1-249-414-11	CARBON	560	5%	1/4W	
R1722	1-249-385-11	CARBON	2.2	5%	1/4W	F
R1723	1-249-429-11	CARBON	10K	5%	1/4W	
R1724	1-249-436-11	CARBON	39K	5%	1/4W	
R1725	1-249-416-11	CARBON	820	5%	1/4W	
R1726	1-249-414-11	CARBON	560	5%	1/4W	
R1727	1-249-402-11	CARBON	56	5%	1/4W	F
R1729	1-216-451-11	METAL OXIDE	120	5%	2W	F
R1731	1-249-420-11	CARBON	1.8K	5%	1/4W	
R1732	1-249-426-11	CARBON	5.6K	5%	1/4W	
R1734	1-249-419-11	CARBON	1.5K	5%	1/4W	

****

*1-648-314-11 H1 BOARD
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C083	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	
C087	1-163-037-11	CERAMIC CHIP	0.022MF	10%	25V	

<JACK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J-81	1-568-678-11	TERMINAL BLOCK, S 3P	
J-82	1-562-837-11	JACK	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1008	*1-564-516-11	PLUG, CONNECTOR 13P	

<COIL>

REF.NO.	PART NO.	DESCRIPTION		REMARK
L081	1-408-409-00	INDUCTOR	10UH	
L082	1-408-409-00	INDUCTOR	10UH	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
JR021	1-216-295-00	METAL GLAZE	0	5%	1/10W	
R081	1-216-073-00	METAL GLAZE	10K	5%	1/10W	
R082	1-216-065-00	METAL GLAZE	4.7K	5%	1/10W	
R083	1-216-057-00	METAL GLAZE	2.2K	5%	1/10W	
R084	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	
R085	1-216-202-00	METAL GLAZE	1.5K	5%	1/8W	

<SWITCH>

REF.NO.	PART NO.	DESCRIPTION	REMARK
S081	1-571-532-21	SWITCH, TACTIL	
S082	1-571-532-21	SWITCH, TACTIL	
S083	1-571-532-21	SWITCH, TACTIL	

****

*1-648-475-11 H2 BOARD
****

REF.NO.	PART NO.	DESCRIPTION	REMARK
	*4-201-076-01	HOLDER, LED	
	*4-374-987-01	GUIDE, LIGHT	
	4-381-686-01	BRACKET (B), LIGHT GUIDE	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1132	*1-568-882-51	PIN, CONNECTOR 7P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D092	8-719-948-31	DIODE LD-201VR	
D093	8-719-948-31	DIODE LD-201VR	
D094	8-719-948-31	DIODE LD-201VR	

<IC>

REF.NO.	PART NO.	DESCRIPTION	REMARK
IC091	8-741-101-75	IC SBX1610-11	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
R091	1-216-190-00	METAL GLAZE	470	5%	1/8W	

****

*A-1651-051-A J BOARD, COMPLETE
****

<CAPACITOR>

REF.NO.	PART NO.	DESCRIPTION				REMARK
C281	1-124-119-00	ELECT	330MF	20%	16V	
C295	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C296	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V	
C906	1-101-004-00	CERAMIC	0.01MF		50V	
C910	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C911	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C912	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C913	1-163-133-00	CERAMIC CHIP	470PF	5%	50V	
C914	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C915	1-163-121-00	CERAMIC CHIP	150PF	5%	50V	
C916	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C917	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V	
C922	1-124-477-11	ELECT	47MF	20%	16V	
C923	1-164-346-11	CERAMIC CHIP	1MF		16V	
C924	1-124-477-11	ELECT	47MF	20%	16V	
C925	1-124-477-11	ELECT	47MF	20%	16V	
C926	1-164-346-11	CERAMIC CHIP	1MF		16V	
C927	1-124-477-11	ELECT	47MF	20%	16V	
C928	1-124-477-11	ELECT	47MF	20%	16V	
C929	1-124-477-11	ELECT	47MF	20%	16V	
C930	1-124-477-11	ELECT	47MF	20%	16V	
C931	1-164-346-11	CERAMIC CHIP	1MF		16V	
C932	1-164-346-11	CERAMIC CHIP	1MF		16V	

<CONNECTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
CN1209	1-695-302-11	CONNECTOR, BOARD TO BOARD 50P	
CN1210	*1-564-522-11	PLUG, CONNECTOR 7P	
CN1233	*1-564-518-11	PLUG, CONNECTOR 3P	
CN1240	*1-564-519-11	PLUG, CONNECTOR 4P	

<DIODE>

REF.NO.	PART NO.	DESCRIPTION	REMARK
D903	8-719-921-69	DIODE MTZJ-9.1	
D904	8-719-921-69	DIODE MTZJ-9.1	
D907	8-719-921-69	DIODE MTZJ-9.1	
D908	8-719-921-69	DIODE MTZJ-9.1	
D909	8-719-921-69	DIODE MTZJ-9.1	
D910	8-719-921-69	DIODE MTZJ-9.1	
D911	8-719-921-69	DIODE MTZJ-9.1	
D912	8-719-921-69	DIODE MTZJ-9.1	
D913	8-719-921-69	DIODE MTZJ-9.1	
D914	8-719-921-69	DIODE MTZJ-9.1	
D915	8-719-921-69	DIODE MTZJ-9.1	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifies par une trame et une marque ⚠ sont critiques pour la securite.
Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION	REMARK
D916	8-719-921-69	DIODE MTZJ-9.1	
D917	8-719-921-69	DIODE MTZJ-9.1	
D924	8-719-921-69	DIODE MTZJ-9.1	
D925	8-719-921-69	DIODE MTZJ-9.1	
D926	8-719-921-69	DIODE MTZJ-9.1	
D927	8-719-921-69	DIODE MTZJ-9.1	
D928	8-719-921-69	DIODE MTZJ-9.1	
D999	8-719-921-91	DIODE MTZJ-15A	

<JACK>

REF.NO.	PART NO.	DESCRIPTION	REMARK
J291	1-537-505-11	TERMINAL BOARD (2P)	
J903	1-561-534-41	SOCKET, PIN 21P	
J903	1-695-550-11	SOCKET 21P	
J905	1-695-293-11	SOCKET 21P	

<TRANSISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
Q281	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q282	8-729-120-28	TRANSISTOR 2SC1623-L5L6	

<RESISTOR>

REF.NO.	PART NO.	DESCRIPTION	REMARK
JR901	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR906	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR915	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR917	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR918	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR919	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR920	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR921	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR924	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR926	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR927	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR928	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR935	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR940	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR942	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR952	1-216-296-91	METAL GLAZE 0 5% 1/8W	
JR954	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR955	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR956	1-216-295-00	METAL GLAZE 0 5% 1/10W	
JR957	1-216-295-00	METAL GLAZE 0 5% 1/10W	
R282	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R283	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R284	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R287	1-216-216-00	METAL GLAZE 5.6K 5% 1/8W	
R288	1-216-216-00	METAL GLAZE 5.6K 5% 1/8W	
R289	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R290	1-216-216-00	METAL GLAZE 5.6K 5% 1/8W	
R291	1-249-413-11	CARBON 470 5% 1/4W	
R292	1-249-413-11	CARBON 470 5% 1/4W	
R911	1-216-022-00	METAL GLAZE 75 5% 1/10W	
R921	1-216-022-00	METAL GLAZE 75 5% 1/10W	
R922	1-216-222-00	METAL GLAZE 10K 5% 1/8W	
R923	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R924	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R925	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R926	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R927	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R928	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R929	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R930	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R931	1-216-212-00	METAL GLAZE 3.9K 5% 1/8W	
R932	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R933	1-216-073-00	METAL GLAZE 10K 5% 1/10W	
R934	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R935	1-216-022-00	METAL GLAZE 75 5% 1/10W	
R936	1-216-022-00	METAL GLAZE 75 5% 1/10W	
R937	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R938	1-216-039-00	METAL GLAZE 390 5% 1/10W	
R939	1-216-188-00	METAL GLAZE 390 5% 1/8W	
R940	1-216-063-00	METAL GLAZE 3.9K 5% 1/10W	
R941	1-216-113-00	METAL GLAZE 470K 5% 1/10W	
R942	1-216-188-00	METAL GLAZE 390 5% 1/8W	
R943	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R944	1-216-188-00	METAL GLAZE 390 5% 1/8W	
R945	1-216-089-91	METAL GLAZE 47K 5% 1/10W	
R959	1-216-674-11	METAL CHIP 9.1K 0.50% 1/10W	
R960	1-216-674-11	METAL CHIP 9.1K 0.50% 1/10W	
R966	1-216-029-00	METAL GLAZE 150 5% 1/10W	
R967	1-216-029-00	METAL GLAZE 150 5% 1/10W	
R968	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R969	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R970	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	
R977	1-216-055-00	METAL GLAZE 1.8K 5% 1/10W	

* * *

MISCELLANEOUS

REF.NO.	PART NO.	DESCRIPTION	REMARK
	⚠1-406-807-21	COIL, DEMAGNETIZATION	
	⚠1-451-422-11	DEFLECTION YOKE (Y29GXA)	
	⚠1-452-509-12	NECK ASSY, PICTURE TUBE (NA-308)	
	1-544-475-21	SPEAKER	
	⚠1-590-460-11	CORD, POWER(WITH CONNECTOR) 7.0A/250V (KV-A2931B,A2933E)	
	⚠1-590-501-11	CORD, POWER(WITH NOISE FILTER) 2.5A/250V (KV-A2931D)	
	⚠1-590-762-11	CORD, POWER(WITH PLUG) 2.5A/250V (KV-A2932U)	
	⚠1-690-296-11	CORD, POWER(WITH NOISE FILTER) 2.5A/250V (KV-A2931A)	
V901	⚠8-733-841-05	PICTURE TUBE (M68KZT10X)	

* * *

ACCESSORIES AND PACKING MATERIALS

REF.NO.	PART NO.	DESCRIPTION	REMARK
	4-202-481-11	MANUAL, INSTRUCTION (KV-A2931D) (GERMAN/ENGLISH/FRENCH/DUTCH/ITALIAN)	
	4-202-481-41	MANUAL, INSTRUCTION(KV-A2931A)(ITALIAN)	
	4-202-481-51	MANUAL, INSTRUCTION(KV-A2931B) (FRENCH/GERMAN/ITALIAN)	
	4-202-481-61	MANUAL, INSTRUCTION (KV-A2932U)	
	4-202-481-71	MANUAL, INSTRUCTION(KV-A2933E)(SPANISH)	
	4-202-481-81	MANUAL, INSTRUCTION (KV-A2931B,A2933E) (FRENCH/DUTCH/SWEDISH/DANISH/FINNISH/NORWEGIAN/PORTUGUESE)	
	4-202-481-91	MANUAL, INSTRUCTION (KV-A2931D)	
	*4-039-906-01	BAG, PROTECTION	
	*4-202-502-01	CUSHION (LOWER) (ASSY)	
	*4-202-503-01	CUSHION (UPPER) (ASSY)	
	*4-202-504-01	INDIVIDUAL CARTON	

REMOTE COMMANDER

REF.NO.	PART NO.	DESCRIPTION	REMARK
	1-467-272-11	COMMANDER,STANDARD TYPE(RM831)	
	9-903-466-01	POCKET COVER (FOR RM831)	